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The Work of Our Hands

A Study of Occupations for Invalids

BY

HERBERT J. HALL, M.D.

AND

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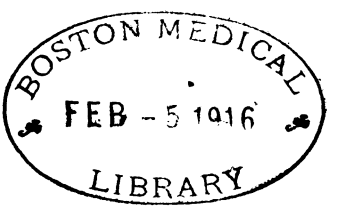

INTRODUCTION

THE following words appeared in a recent Boston *Herald* editorial: "One of the many stultifying effects of war has already found a pathetic example in the Industrial Home for Crippled Soldiers which has been established in Lyons, France. Recognizing the terrible burden of incapacitated men—a burden not only on the finances but on the general esprit of the country—France has taken the institution at Charleroi, Belgium, as a model for its new school, which will open as soon as possible. Here, as at Charleroi, there will be seven departments: Shoe-making, bookbinding, harness making, tailoring, basketry, matting weaving, and bookkeeping. And here thousands of men, most of them young, many of them destined for careers of wide helpfulness, will come, grateful to pick up sufficient knowledge to make them partially or entirely self-supporting for the rest of their shattered lives."

It is evident that dire necessity must rapidly

develop in Europe an industrial idea which social thinkers and workers all over the world have been dreaming about and applying in a small way for many years. The need of adequate work for the handicapped in this country is not less real than in Europe, if it is less strikingly evident.

A war that goes on year after year between the machine and the man, between disease and the man, keeps our ambulances busy and taxes our charities in no uncertain way. The hospitals do their best, our charitable organizations are very efficient, but there are thousands of men and women in every great city doomed to idleness and dependence because of injury or some illness that makes ordinary work out of the question.

The man out of work because of hard times is badly enough off. What of the man who because of some crippling or disfigurement can never hope to work again? Put yourself in that man's place—imagine the despair and the final degeneration that must sap at last all that is brave and good in life.

Then there is the economic side. We know that wealth depends upon productive industry.

The really well to do community or the really prosperous man must be constantly at work, adding to the world's store of valuable things. The moment industries stop there is waste and desolation.

Although the plight of the handicapped workers in this country is very desperate, much has already been done toward improvement of their condition. Strangely enough the most hopeful progress has been made among the insane in the various state hospitals. It has been recognized for many years that mentally disturbed and depressed people are better off and get well more quickly if their faculties can be used in some simple and effective way. The first steps that were taken gave the patients simple work to do in the wards and in the service of the institutions. This housekeeping work served a very good purpose, although it was no doubt occasionally abused by the overdriving of certain patients who were willing and able. On the other hand, it left out a great many patients who could not adapt themselves to such occupations.

Within the last decade the superintendents of these hospitals have generally realized that

by developing the manufacture of goods needed by the institution a great range of patients could be interested and their work utilized. The visitor to one of the more progressive state asylums to-day will be deeply impressed with the many activities which are going on. The patients participate in all the household work, especially in the laundry and in the kitchen. They are also employed in the manufacture of clothing, shoes and furniture. They are making and remaking mattresses, and, best of all, they are employed very largely upon the farms in the raising of crops for the use of the institutions. Officials everywhere acknowledge that there is no one remedy so potent as work in these unfortunate cases. Interest is aroused, old faculties are restored, and recovery is hastened. Incidentally a very great saving is made to the state; many thousands of dollars yearly in each institution.

Very lately it has been realized that a certain number of patients who cannot be interested in these more common pursuits will find interest and development in some of the handicrafts, such as weaving, knitting, and basket making. The casual visitor will again be surprised to see

how far these crafts have been followed and what excellent work is turned out.

The idea of occupation for the handicapped has progressed far enough in this country so that it is now rare to find any institution for chronic patients where there is general idleness. The worst offenders in failure to supply work for the patients are the private institutions where people of means are treated. Here it will not infrequently be observed that patients who would be far better off to be occupied are allowed to sit in idleness day after day, week after week. The day will come when such treatment of any patient able to do even a very small and unimportant work will be considered a disgrace.

The idea of work for the handicapped both as a remedy and as a means of partial self-support has been developed lately in the interest of the many sufferers from chronic heart disease. Diseases of the heart unfortunately attack most frequently those people who are engaged in the most arduous pursuits, who are exposed to bad weather, and who must do heavy lifting and work for long hours. It has been found that after hospital treatment these

patients go back to their old occupations. There is nothing else to do, and they almost invariably relapse and have to be treated all over again. Until very lately there has been no outlook for such cases except a gradual going to pieces under the existing conditions.

A little over a year ago there was established at Sharon, Connecticut, a home for convalescent heart cases* where the patients were taught a new trade, the making of concrete flower pots. Artistic molds were provided, and the technic was worked out in such a way that good results were assured from the technical point of view. It was found that this trade could be carried on without overstraining the injured hearts of these patients, and that most of the men grew stronger under the work, because, as is well known, a moderate exercise strengthens the heart that is diseased just as surely as overwork injures it. These men have been kept in the home in Sharon for several weeks or even months, then sent back to their homes in the city, not to take up their old and too strenuous occupations, but to carry

* The workshop has recently been transferred to the Burke Foundation Convalescent Home at White Plains, N. Y.

on in a specially supervised city work shop the quiet trade which they had acquired at Sharon. The astonishing part of this semi-charitable enterprise is that it has been able to pay a considerable number of handicapped workers fair wages from the sales of the flower pots.

As is well known, there are many workshops for the crippled and the blind in many parts of the country, all successful in relieving the harm and illness that are attendant upon idleness, if they are not justified from the commercial and artistic point of view.

These small beginnings are pointing the way to very large possibilities of effective industries for the handicapped. It seems likely that a careful and expert study of many industries will reveal the possibilities of modification that will make the labor of the handicapped a thing of great power and value in the industrial and social life of the country.

The handicap that keeps a man from the regular industries may be very slight indeed, yet the regular industries cannot change their rules and system for the sake of giving him employment. Neither can we go on forever wasting the potentialities of the slightly handi-

capped. The way out seems to lie in the establishing of special industries where the handicapped may be favored and yet given a chance to use what strength and intelligence they have.

The whole idea is so simple it is a wonder that it was not fully developed long ago. Side by side with machine work of many kinds are the possibilities of more careful hand work requiring time and intelligence and warranting both. Take, for instance, two trades, weaving and cement working. It is evident that hand weavers cannot expect to compete with the power looms. Yet with care and skill available in a hand weaving shop it is possible with special oversight of the workers to turn out products which the power looms could never accomplish and which are eagerly sought because of the charm and interest which belongs to a specially woven fabric. In the making of cement flower pots there could never be the hope of turning out a cheap commercial product by hand, but the handicapped workers at Sharon are making such a variety of new and interesting shapes, so well decorated and col-

ored, that the demand for the wares is constant and dependable.

There are two principal elements which enter into the situation and make it hopeful. First of all the fact that many of the men and women who must avail themselves of these special industries are of unusual education and capacity. Secondly, it will be more and more feasible to call to the consideration of the problem the highest type of able-bodied industrial and artistic direction. There is no reason why these handicapped industries should not command the best engineering talent and the best possible coöperation of designers and craftsmen. Undirected and unsystematized, special industries of this sort would undoubtedly fail pathetically. But a small part of the skill and intelligence which is given to the regular industries will find abundant opportunities for the handicapped workers. In the end the system may turn out to be not charitable at all but a definite business proposition.

The problem is relatively simple in the various charitable and semi-charitable institutions. Here it is being found that a large part

of the necessary hospital supplies can be manufactured on the premises. As for instance, in one Massachusetts asylum for the insane, where cement bricks and tiles are made in great quantities, then used in actual building operations for the state. And in many other institutions where a large part of the food supply is raised on the farm by the labor of the patients who are able to do such work.

The great difficulty is encountered when the chronic patient is obliged to leave the institution and go back to his home. There organization ceases and he finds his handicap painfully evident. The case of the cured or partly cured tubercular patient and of the cured insane is pertinent enough. These people, like ex-convicts, are looked upon with suspicion. They are either not wanted because their strength is inadequate or because the employer is afraid that some accident will happen.

In increasing numbers the discharged patients of the great institutions have learned occupations or trades during the time of treatment. There has already been some talk, particularly in Massachusetts, of the establishment of outside workshops where under special ob-

servation chronic patients discharged from the hospitals may find opportunity for remunerative work. At first thought it seems impossible that any industry conducted for the benefit of the handicapped could have successful operation without large charitable support, but a little ingenuity and persistence will in time overcome this prejudice.

Take for instance the trade of laundry working. As has been stated, a very large number of the patients, particularly in the hospitals for the insane, are employed in the laundry. There, although their mental capacity may be comparatively small, they are patiently trained to perform certain necessary parts of the labor. Most of these patients could not go into a regular steam laundry and succeed. It should be quite possible to establish special laundries where such operatives could be successfully employed. The workers would need to be directed by officers who had had experience in the asylum laundries, but with such direction there would be little doubt of success. It is possible that such laundries might have to be subsidized and that their field should be limited so that they would not overlap or compete with the ex-

isting industries. Those who know the situation realize that there is a wide need of careful hand laundry work. The machines tear and destroy fine fabrics too fast. These handicapped workers might well be trained to do this special slow work which householders now find great difficulty in getting accomplished. A special price could reasonably be asked for such work and this would offset in some degree the slowness and intermittent efforts of the workers.

If the discharged and handicapped patients from hospitals all over the country could be given legitimate work which would secure them even half of the usual wage, a very great load would be lifted from charity, and a still greater load from the minds and hearts of the workers. There are many hard working families in which the burden of one idle member is a very serious matter. If that patient could be given work which would earn even a very small amount of money the difficult atmosphere of the home would be quite changed.

There is immediate and pressing need of a new system which will modify old industries and create new ones that will give the handi-

capped a fair chance. The thing must be done systematically and intelligently. If it is done in this way there is no limit to the industrial possibilities. We have been studying the problems of efficiency for the able bodied and with astonishing results. Careful study of the handicapped and their industrial possibilities will be well repaid. The thousands who are now idle, not from choice but because they no longer fit the regular industries, represent a source of power and of wealth that has been curiously overlooked. These men and women are the waste human product of the industrial world, a product so valuable that its use would mean a revolution in industrial and in charitable affairs.

The skeptical will say there is no doubt about the need of special occupations for handicapped people, but basket making and chair caning and such crafts will not go very far toward the actual support of thousands of needy people. Such doubters have only to visit the unpromising field of the state asylums to be quite convinced of the enormous economic and moral possibilities of specialized work for the handicapped. In the workshops of these hospitals

may be seen any day in the year hundreds of people contributing in no small way to their self support by means of carefully directed labor. The principle is proven under these circumstances many times over and its application to the needs of a much larger and more promising class outside the hospital is only a matter of detail.

It must not be forgotten that unemployment is as harmful for the well to do as it is for the poor. The writer of these chapters undertook ten years ago to meet in a small way the needs of a class of people who were not in actual want but who from illness or the overstrain of modern life had been obliged to give up their usual occupations. It removes some of the doubt as to the practicability of special industries for the handicapped to know that a young physician in a small town could, without capital, develop in ten years three self-supporting industries, for the benefit of men and women who need to bring back courage and efficiency through the slow accomplishment of manual work. The industries which have been used are pottery, hand weaving, and cement working. That none of them have gone bankrupt although

managed a good deal of the time without especial business ability speaks volumes for the vitality of the idea.

These experimental workshops began very simply with hand weaving under a competent teacher. This laid the foundation for a considerable industry. The pottery served its purpose as a school for a time, then became professional and is now in that class. The cement working, which is the latest addition, promises well as an industry and is exceedingly useful from the medical point of view. The workshops are at present run in connection with a sanatorium where people of means are given the usual medical treatment for convalescence and for nervous exhaustion. The shops themselves are conducted by professional teachers and by assistants who come as apprentices to learn the trades that they may in turn become teachers. These apprentices have often enough been themselves patients who were obliged to make a living and who found opportunity in this way. School teachers who have broken down in their work have found quieter and more practical occupation in this new field. During the past five

years these medical workshops have equipped nine people who are now earning a living in other institutions. Six of these were themselves patients, the subjects of nervous exhaustion in one form or another. One, a teacher of music who for several years had been quite helpless and hopeless, is now earning a salary of $1200 as the head of a social settlement system. One is independent as a teacher of weaving to the blind, two are in charge of hospital workshops, and two are earning their living as potters.

The sales of products from all these workshops amounted in the past year to about $5000. True, there was no profit, but the shops have given an opportunity for experimental work and they have served their purpose as a school where people of means who are broken down nervously or physically may gradually regain strength and efficiency under medical observation. Part of the product of this institution is the result of skilled labor employed for the purpose, and part of the work is done by people who had broken down and who have gradually regained strength. It is only fair to say that some of the workers who were

not so originally have become highly skilled and should rank as professional. But that does not detract from the significance of the enterprise. It seems reasonable to suppose that similar and other industries might be established elsewhere with increasing benefit to the people.

Aside from important economic considerations medical men will find that carefully conducted industries will add a very strong new remedial measure to their practice. If a young woman comes into the doctor's office complaining of sleeplessness, fear of insanity, indigestion and nervous weakness, the long train of trying symptoms familiar to every practitioner, that patient should be sent to some medical workshop as soon as she has had sufficient rest to make it possible. There under the influence of quiet work she will forget and leave behind her such symptoms as are of purely nervous origin and the physician will then be able to tell with certainty how much of the trouble is physical and in need of the usual medical treatment, and how much is to be disposed of by the acquirement of courage and self control. There is no better way of

separating the real from the imagined, and no better way of leaving fear and unhappiness behind. Carefully regulated work is a remedy of the first order. It must be used with discretion and care, or like any other remedy it may do more harm than good.

Such briefly is the idea of the work cure. The following chapters will consider in a more detailed way how the principle has been or may be applied in charitable or private practice.

The first section of the book, written by Dr. Hall, is based upon his experience of ten years in building up a series of medical industries in a private sanatorium at Marblehead, Mass., an institution dealing largely with people of means who have been given manual work as a part of the treatment of nervous disability. The second section, written by Miss Buck, is founded upon her experience of many years in the actual teaching of handicapped patients, mostly mental and organic nervous cases in charitable or semi-charitable institutions in New York City.

The writers are indebted to the Board of Directors and the Superintendent of the Lincoln Hospital and Home in New York; and

to the supervision and hearty interest of the Medical and Nursing Staff and the Social Service Director of the Neurological Institute of New York City; also to the Trustees and Superintendent of the Massachusetts General Hospital in Boston; the Industrial School for Cardiac Convalescents at Sharon, Connecticut; and to a large number of physicians, craftsmen, teachers and patients without whose assistance and encouragement the following chapters could not have been written.

Free use has been made of the material in numerous articles published by Dr. Hall from time to time in the *Boston Medical and Surgical Journal,* and the *Journal of the American Medical Association.*

Dr. Hall takes this opportunity to acknowledge with especial gratitude the assistance of the craftsmen and designers who have from time to time devoted themselves to the problems of his experimental work. These workers have had experience not only in the developing and the application of crafts and trades for handicapped labor but they have given very generously of their time and strength to the actual teaching of patients. The Misses

Jennie and Ruth Turner, both hand weavers of the highest order, have made possible a very considerable progress along this important line. Miss Margaret Weddle has developed a practical department of dyeing. Miss Weddle's dyed yarns are now used effectively in the hand-weaving of several institutions. Miss Edith Griffin has now devoted several years to the difficult subject of cement working for invalid workshops—Mr. Percy Griffin has done original work in the iron foundries—work leading toward the manufacture of molds suitable for cement castings. Miss Jessie Luther, now an active teacher of crafts in the service of Dr. Grenfell in Labrador, deserves much credit for pioneer work in weaving. She was the first craftsman employed in the medical workshops in Marblehead. Mrs. Edwd. Tutt, Messrs. Arthur Baggs, Arthur Hennessy and John Swallow have made possible the self-supporting pottery. Miss Frances Wood and Miss Florence Riley have been able assistants in cement working and weaving. Miss Annie Aldrich and Miss Maude Milner have given valuable service as designers.

These craftsmen and their assistants, many

of whom have been themselves invalids, have shown that self supporting workshops may be run in connection with a private sanatorium—they have helped to make clear the possibilities of a comprehensive system of industries for the charitable institutions.

The writers are also indebted to Dr. Walter Fernald and to Dr. Elwood Worcester. Both these gentlemen have reviewed the manuscript and have given valued suggestions and encouragement.

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PART I

I

Workshops in General Hospitals

The Massachusetts General Hospital has within the past year established a medical workshop in a basement of the new out-patient building. This shop is a hospital department, authorized by the trustees and supervised by the executive staff. The cost of running is very little as there is but one salaried worker. The heat, light and rent cost the hospital nothing as the rooms are kept open anyway. The shop is still very small, accommodating never more than six patients. It has, however, practically paid for itself in the first year through the sale of its products.

No one doubts the need of part-time work for handicapped people. The difficulty has been to find such employment. This hospital

shop is equipped with molds for the manufactures of cement flower pots, seats, sundials, and such garden accessories. The idea was carefully tested and worked out for two years by craftsmen in the writer's experimental shops at Marblehead, and later in a more elaborate way in the studio of Mr. Clarence Denny of Hyde Park, Massachusetts, who has generously supplied the hospital with special appliances. The molds and appliances have been so constructed as to insure success from the mechanical and artistic points of view. Nothing is left to the choice and initiative of the workers, who are elected from among the chronic out-patients of the hospital—people who would otherwise be idle at home or working at some hard, unsuitable employment. This is, so far as is known, the first attempt of a general hospital to provide work that can be regulated to the capacity of its crippled out-patients, with the idea of protecting these people from the evil effects of idleness or overwork, and for the purpose of keeping them in good physical and economic condition so that they will be less likely to need further ward treatment. The Shop at the Massachusetts General Hospital has employed

the subjects of various disabilities, including paralytics, accident cases with loss or disabling of members, cases of rheumatic arthritis and post operative disability of many kinds.

The fact is that this important element of adequate work for partly disabled patients has never been fully met by any outside charitable agency. If the hospital is to undertake to improve conditions in the life of the patient after his discharge, it may well begin by providing work. Work with a money return must be the substantial basis of all such improvement. Without that basis, our charity may often enough be wasted.

The social service workers have in the past few years accomplished a great deal in the right direction. The Social Service Committee of King's Chapel in Boston had in Miss Grace Harper a woman who knows the trades and who was remarkably successful in finding work for handicapped people. But the doors of the regular industries are, often enough, closed to the handicapped. Business is geared too high to give more than an infrequent, subordinate place to men who are not able-bodied.

It is easy to believe that the whole idea of

specialized work is impractical. If the established factories and workshops of the world must employ only the most efficient, how can charitable institutions without experience and with crippled workers hope to accomplish adequate results? This first hospital workshop in Boston has begun to show the possibilities of an industrial system of tremendous economic and social importance. Not many years ago the great manufacturing plants were throwing away by-products that are now worth their annual millions. The industrial world is throwing away untold values in damaged human material, the reasonable salvage of which might save a great deal of money and an amount of human suffering too great to be reckoned.

About the same time as the founding of the Massachusetts general workshop, a movement began in New York City to provide some kind of light work for the cases of heart disease that are discharged relieved from the various hospitals. These cases of organic heart disease are, of course, much benefited by their short sojourns in the hospitals during acute stages of the disease, but they almost in-

WORKSHOP OF THE BURKE FOUNDATION CONVALESCENT HOME AT WHITE PLAINS, N. Y.

This basement room, well lighted and airy, is tvpical of the kind of space available in many hospitals.

variably drift back into the wards and they are naturally worse each time. Having no other trades they attempt their old too arduous and exposed occupations. The result is always the same; they break down again and again. Such a cycle is poor economy and poor humanity. Realizing this, the Burke Foundation financed the beginning of an industrial school for convalescents at Sharon, Connecticut. The idea of this school is to keep cardiac cases under favorable conditions for about three months and at the same time to teach them a trade, in this case the making of cement flowerpots and other articles of commerce such as those made at Marblehead and in Boston. The first year's work has been so encouraging that two workshops have been established in New York City so that the men who have learned the trade in Sharon may come back to their homes in the city and go daily to the city shops for employment. The medical reports on these heart cases are most encouraging. The work can be gauged exactly with experience so that the patient gives all the strength he is able without reaching the point of fatigue. The simple arm

motions of the technique are as good as especially designed exercises for improving the strength of the circulation, and yet as a result of these movements there is a product of immediate market value. The actual financial possibilities of these hospital shops cannot be predicted. They will have to be run intelligently and on business principles. At the present time the shops show a growing market with encouraging return. They employ nine men and pay nine dollars a week. A letter from the director says, "Their hours are from nine to twelve. Most of the men are examined once a week by a heart specialist. Some of them have improved so much that an examination once in two or three weeks seems to be enough. All of the men have improved one hundred per cent. since their return from Sharon." At the Massachusetts General the men and women have been paid between four and six dollars a week. At the end of the first year it was found that the shop had paid for all its equipment and supplies, the salaries and other expense, and had a deficit of but $800.*

The cement garden and flower pots of these

* This deficit has since been wiped out by the profits of special sales.

institutions are only a crude beginning. If the work succeeds so well now, the future is very bright, for not only can this kind of ware be improved and extended, but new manufactures of various kinds can be added. With good planning and time the shops should justify themselves from every point of view.

The first requirement of development is this: That the new handicapped industries must not attempt to compete with machinery along the established lines. The second requirement is an assured market for all products. This implies that the choice of products shall be wise and far-seeing and that the workmanship shall be good. The third requirement is that the work shall be of a kind adaptable to physical and nervous limitations.

If we were to attempt to make flower pots out of clay as they have been made for generations; if our shop force of handicapped people were to compete with the jigger-wheels and the enormous kilns of the great potteries, we should not only fail, but we would amply deserve our failure. But we propose to make flower pots in a new way—out of cement this time, and cast in molds that can be handled

by a crippled girl quite as well as by a strong man. If our molds are proportioned and designed by an artist of full ability, then the situation changes. The strong men may bend to their wheels, turning out cheap and rather ugly flower pots that sell, to be sure, by the hundred thousand. The greater industry goes its way, and it will not interfere in the slightest degree with the smaller, slower, but equally justified, process.

This particular new product gives to the public at a moderate price—more expensive than terra-cotta, less expensive than glazed pottery—a beautiful and useful article of common use. The material for these cement flower pots costs from three to ten cents each, the selling price is usually from fifty cents to one dollar. Thus is the second requirement fulfilled, or as nearly fulfilled as can be the case with any new idea. We are counting on the well-known market for flower pots, and on the especial characteristics and middle-priced value of our ware.

The third requirement is more easily met than most of the uninitiated would suppose possible. Here is the key-note of the success

of all handicapped labor. There must always be a fully trained instructor and a sufficient number of able assistants. Handicapped workers alone are hopeless and helpless; under careful direction there is no end to their possibilities.

Cement working is but one of many possible modifications of existing industries. The shops at Marblehead, and in many other places, have developed hand-weaving to a high degree of perfection. By our three requirements, hand-weaving is available for convalescent or permanently limited people. We would be absolutely lost if we were to attempt to make on hand-looms, cloth such as could be more readily made by power machinery. But by developing especial patterns and individual effects designed by clever craftsmen, we provide a business capable of supporting a great many handicapped workers. At Marblehead is made a small woolen blanket for babies. The material costs about sixty cents. If the workers were to weave a similar length and width of plain wool, they could not sell it for a dollar, but because there is an attractive design and because the ends are finished well,

these specialized blankets sell for five or six dollars. It takes about a day and a half to make one such blanket. The factories could not produce the same thing—hand weaving is distinctive and better—but the hospital workshops can take the time, and such a course may mean a partial self-support where help is greatly needed.

A great deal of combined medical and industrial observation will be needed before the idea of hospital industries can be carried out in a really adequate and comprehensive way. It seems reasonable, however, that the idea should be taken up by the proper authorities in the larger and smaller general hospitals. The way has been shown for a beginning at least. Occupation for the handicapped is a fine adventure—there is no telling what it may lead to along clinical or economic lines.

If there were no other justification for the work, the production of hope and courage under adverse conditions would be enough. The idea is one of enlarged and improved social service; it means a chance for the handicapped to make at least a partial living when other opportunity is denied. This is the very

root of Social Service. No amount of kindly advice and social or hygienic uplift can ever take its place. There is a fair chance of reaching the moral and social needs of a man after he is given work to do—while he is idle his various needs can be reached only with great difficulty.

Hospital authorities who may object to such enterprises need only be shown that work for handicapped people is of definite medical value. The new workshops may well be recognized as legitimate clinical departments of any charitable hospital. One has only to see the discouraged and depressed paralytic take heart or the incurable grow happy and contented under this system to be convinced of its medical value.

II

Manual Work for Patients in State and County Hospitals

The practice of medicine has changed in no way more remarkably than in the new responsibility it assumes for the social and moral welfare of its patients. We need no longer call attention to the need of social service in connection with hospital and dispensary work —it is an established thing. That the charitable institution, and especially the state hospital, should concern itself seriously with the matter of carefully specialized work for its patients both in and out of the hospital is a newer conception that merits careful attention.

When work is proposed for a sick man in hospital or out, the first thought is a revulsion. It would seem that the sick might be left in peace to recover at leisure. But we are not thinking of the acute and more painful illnesses in which work is impossible. There are thousands of people in the state and county

hospitals who cannot ordinarily be depended upon for intelligent work, but who have capacities that are being developed with no inconsiderable profit to everybody concerned. To say nothing of the economic possibilities, work is almost a moral necessity. It is essentially an expression of good-will and common service that helps to keep life wholesome. Even if it does not mean much money return it can always bring some degree of self-respect. There need be no quarrel with diversion and amusement, but there comes a time when these things pall and there is need of real employment. It is no new thing for the chronic patients in the state and county hospitals to be given work to do. Such action has, however, until recently, been desultory, and due to the chance initiative of individual superintendents. There is growing up now a new science of work which will not be satisfied with the demand of household service from those who are most able. The new science will study the possibilities and the effect of productive work upon each patient, and it will require measured work for therapeutic as well as economic reasons.

There are many state hospitals where today a great deal of useful house or ward work is done by the inmates. Here and there may be found well-equipped workshops. The cutting and making of clothing for the patient's own use is one of the best outlets for unused energy. Through the installation of knitting machines it has become possible for patients to make such things as stockings, sweaters, mittens and caps in great quantities. These products represent real money value. Among the occupations already found useful for the insane and feeble-minded are brush- and broom-making, cane-seating, rug-making, and the hand-weaving of many fabrics, printing for institutional use, lace-making, cabinet-making and shoe repairing. These things are all done well by the people who would ordinarily be considered useless members of society. The only difference is that a great deal of time is consumed and especial conditions of oversight and system must be maintained. The work is professional in the best sense. It is rare to find poor craftsmanship. Moreover, here is a valuable means of treatment, most potent toward creating efficiency and the

restoration of disordered functions, a valuable means of treatment that should cost nothing. Here is a medical agent of the first quality which may actually save the State large sums of money. It is true that many institutional superintendents do not know how much money is saved by the occupation of patients. One of the best managers in the country confessed to the writer that the repairs on boots and shoes done in his workshops would cost the institution in excess of $5,000 annually if done by outside help. He did not, however, publish that amount or other much larger savings in the various departments because he was afraid that the politicians and perhaps the friends and relatives of the patients would look upon the matter as an exploitation of helpless inmates and so put a stop to all work. In this shoe-repairing shop where the footwear of twelve hundred people is kept in repair, a long row of happy boys with their mouths full of brads, hammers out a cobbler's chorus that answers all the objection of ignorance.

The employment of the insane in the ward and house work of the institutions is a long

established custom. A great deal of money is saved this way that would otherwise be spent for service. This is undoubtedly the oldest form of occupation for the insane. Under careful restriction it is wise and legitimate. But no kind of occupation is so liable to abuse or so difficult to apply scientifically. Dr. Eva C. Reid of San Francisco in a recent article on "Ergotherapy in the Treatment of Mental Disorders" * says of the female patient: "If she shows an inclination to work she is given a trial in the laundry, sewing- or dining-room of the institution. If she proves careless or inefficient in her work, she is sent back to the ward. Because she allowed an 'iron to burn out,' spoiled a garment in the making, or broke a few dishes, many a poor soul has been condemned to perpetual idleness, for the remainder of her life. . . . On the other hand if a patient proves to be a willing and efficient worker, she is condemned to a life of hard labor. In every state institution we find old demented patients whose life has become an existence of hopeless drudgery with no time allowed for recreation or diversion."

* *Boston Medical and Surgical Journal*, August 20, 1914.

Such a conception of work for the insane is not much longer to be tolerated. There must be no routine employment without the most careful consideration of the medical and social needs of the patient. If these needs can be met by carefully planned house and ward service—well and good—otherwise that work must be done by hired help, and the difference made up in some other department of labor.

Farming and gardening present themselves as primitively possible. As a matter of fact these pursuits have been carried on for a good many years with great success in many institutions. Naturally, better farming is done when the work is in the hands of able-bodied and experienced men, but there is an enormous amount of routine that can be done perfectly well by the handicapped when there is steady and careful supervision. Among the feeble-minded and the insane such work has its largest development. Ordinarily the boys and men farm in small gangs under the direction of competent foremen. These foremen are sometimes professional farmers, but often enough they are old patients who have become competent. The asylums report excel-

lent work and splendid financial returns and they also report mental and bodily improvement, less restlessness and violence among patients otherwise inclined to be difficult. Here is fine healthful work. Every stroke of the shovel and hoe that does not overtax the strength is clear gain to the patient, and to the commonwealth. The idle farm and the idle patient seem existing for each other. The time has come when economy and therapeutics both demand the raising of crops, road-making, the grading and draining of land.

It is a question whether it is wise for state hospitals to engage in the manufacture of articles to be sold outside in the open market. This is done sometimes and with apparent advantage. In one large New England city, where there is a state hospital, the local trade is supplied with brooms and brushes made in the hospital. Certainly it is wise to manufacture articles which can be used in the hospital where they are made or in other state institutions.

The matter of reward in return for industry is still open for discussion. It seems only fair that direct money returns should be made to

KNITTING MACHINES, MASS. SCHOOL FOR FEEBLE-MINDED.
The girls are skilled operatives. They understand the machines so well that they can make adjustments and even slight repairs without assistance.

the patients or their families. In some cases extra freedom, especial diet, etc., will be enough. Beyond a fair return to the worker or his family money saving should be largely returned to the State that it may diminish in some degree the increasing burden of support.

There are great possibilities of the reciprocity between institutions. One hospital might well specialize in some line, such as the making of socks and stockings. In this way high skill could be acquired and a large and desirable output be maintained for the supply of an increasing chain of institutions.

If we bear in mind two essentials, that the patient must be benefited physically and mentally by the work and that the product must be first class in every respect, we shall not go far astray, and we shall begin to reach the financial gain as well as the clinical advantages of the new system.

Already such beneficent occupation is the rule rather than the exception. The great need now is of system and classification. We must know surely what classes of cases react best to given kinds of work and we must make common knowledge of the difficulties and suc-

cesses of institutional occupations all over the world. This much is certain, that there are vast sources of productive power lying unnecessarily idle in the state institutions for the insane. State hospital superintendents agree that much useful work is possible, that it may represent large savings to the State and that productive occupation is welcomed by patients of all classes.

In the prisons of most States productive occupations occupy a foremost place—adequate systems of exchange of commodities have been established between institutions and an immense saving is made for the State. No one doubts the advantage to the prisoners. Our insane and feeble-minded are prisoners in the larger and better sense, they are restrained for the safety of the community and for their own advancement. It would seem that there is no good reason why these mental "prisoners" should be denied the advantages offered to criminals.

A series of questions sent recently to superintendents of state hospitals throughout the country brought most interesting answers. The questions were as follows:

1. What work is being done by insane or feeble-minded patients in your hospital?

2. What is the effect, generally speaking, upon:

A. The excited cases,

B. The depressed cases,

C. The feeble-minded cases?

3. Does the work of your patients represent a definite saving in money to the institution? Is this saving great or small?

Almost without exception the answers were enthusiastic in regard to the value of occupation for patients of all classes, and with very few exceptions the saving to the institution was considerable.

Extracts from some of the letters follow:

EASTERN STATE HOSPITAL
WILLIAMSBURG, VA.
G. W. BROWN, M.D., SUPERINTENDENT

In answer to Question 1 will state that a large number of our men work on our farm and garden; about the yards and grounds. Some of them work at carpenter's trade, some in the shoe shop, baker's shop, tailor shop, some in the chair and mattress factory, some in the kitchen and of course a great many of them do janitor work. We are now erecting a new Infirmary and a great many of our male patients

who are able bodied (70 per cent.) do some kind of work. All the clothing for the patients is made at the Institution both for men and women. A great many of them do fancy work and we have a special instructress who makes an effort to retrain our dementia præcox cases and some of the dements. This is in needle work, fancy work, and rug weaving.

In answer to Question 2 will state that a great many of all classes are improved; however, we do not work our acutely excited cases. We generally keep these on the ward and give them hydrotherapeutic treatment until they become tractible; after which time we make an effort to get them out on the farm and yards and give them outside employment until they become more quiet.

In answer to Question 3 will say that we have no definite figures which we can give you. I am certain that this labor is quite a saving to the Institution. I figure that it reduces our wage scale about one-half.

VERMONT STATE HOSPITAL

WATERBURY, VERMONT

DON. D. GROUT, M.D., SUPERINTENDENT

The effect upon all classes of having what work they are capable of doing is beneficial in every way. The work of the patients is profitable in every way; it lessens our per capita cost of maintenance very materially, probably fifty per cent.

TOPEKA STATE HOSPITAL
TOPEKA, KANSAS
T. C. BIDDLE, M.D., SUPERINTENDENT

Aside from the farm and garden work, I have, in recent years, been doing much of our construction with patient labor. The insane under supervision of one or two competent constructionists can be employed successfully in any kind of building enterprise, especially concrete construction.

Throughout the two years we have been able to supply our male patients with a large amount of congenial employment. The usual request of our patients is to be allowed to go out with the working parties and an opportunity to engage in some useful exercise. We find no remedial agent that affords more positive results in restoring the mental balance of our cases. Unfortunately, we find greater difficulty in providing suitable occupation for our female inmates. This can best be provided by establishing a crafts and art department, under the direction of a competent instructor. It is a well established fact that much can be done in stimulating recovery in curable cases through useful occupation.

STATE OF NEW YORK, CENTRAL ISLIP HOSPITAL
G. A. SMITH, M.D., SUPERINTENDENT

We have found the effect of diversional and other occupations more beneficial than any other one therapeutic agent. This applies to substantially all cases except the delirious. For the latter class we,

of course, pin our faith largely on the several hydrotherapeutic agents.

While the labor of our patients represents a definite saving in dollars and cents, we regard that as nothing when the beneficial effects on the mental and physical condition of the individual patient is taken into consideration.

BOSTON STATE HOSPITAL,
DORCHESTER CENTRE, MASS.
H. N. FROST, M.D., SUPERINTENDENT

1. The enclosed list of patients' occupations, outside of hospital routine work, shows in more detail what our patients are doing.

2. The effect of this industrial activity, generally speaking, is decidedly favorable, diminishing excitement, stimulating those who are depressed and inactive, and putting some degree of efficiency into the feeble-minded.

3. The work of our patients represents a considerable saving in money, which, however, I am not able to give in figures at this time.

Patients' Industries

Women: Sewing, mending, embroidery, crocheting, lace making, tatting, weaving, spinning, rug making, basketry, straw braiding, hat making, knitting, raveling, stenciling, kindergarten work, paper work, bead work.

Men: Mattress making, upholstery, furniture repairing, chair caning, basketry, straw hat manufacture, mat making, rug making, weaving, stocking knitting (machine), broom making, cement and clay modeling, metal work, leather work, wood carving, cabinet making, picture framing, book binding, etc.

Dr. George Kline of the Danvers (Massachusetts) State Hospital reports a saving of about $1400 a year on one item, the making of soap from the waste fats of the institution. The men who do this work enjoy it and take great pride in their product.

A general idea of the extent of State Hospital occupation in Massachusetts may be obtained from the following table published in Bulletin No. 7 of the Massachusetts State Board of Insanity:

Occupations and Industries

Herewith is presented a report of a survey of occupations for a single day at each of the State institutions under the supervision of this Board, being an average day's work, showing the whole number of patients at each hospital on that day, the number employed, those unable to be employed, and the number idle, with per cents.

INSTITUTION.	Total Number employed.		Total Number unable to work.		Total Number Idle.		Total Number in Hospital.
	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.	
Wrentham State School,	610	95.31	30	4.69	–	–	640
Gardner State Colony,	681	92.03	24	3.24	35	4.73	740
Worcester State Hospital,	1,273	89.77	110	7.76	35	2.47	1,418
Monson State Hospital,	787 [1]	83.90	103	10.98	8	.85	938
Medfield State Hospital,	1,326	81.35	226	13.86	78	4.79	1,630
Worcester State Asylum,	1,094	78.65	96	6.90	201	14.45	1,391
Massachusetts School for the Feeble-minded,	1,175	73.67	420	26.33	–	–	1,595
Taunton State Hospital,	899	71.18	203	16.07	161	12.75	1,263
Westborough State Hospital,	855	70.60	143	11.81	213	17.59	1,211
Danvers State Hospital,	901	61.92	294	20.21	260	17.87	1,455
Boston State Hospital,[2]	854	60.10	430	30.26	137	9.64	1,421
Foxborough State Hospital,	154	54.22	72	25.36	58	20.42	284
Northampton State Hospital,	438	49.60	353	39.98	92	10.42	883
State Infirmary	348	48.95	127	17.86	236	33.19	711
Bridgewater State Hospital,	341	42.89	254	31.95	200	25.16	795
Psychopathic Department of the Boston State Hospital	25	30.12	58	69.88	–	–	83

[1] In addition there were 40, or 4.27 per cent., children in school.
[2] Exclusive of Psychopathic Department.

The following shows, in addition, a detailed statement of the work at each hospital, giving hours of employment, etc.:

Gardner State Colony

		Per cent.
Total number of patients in hospital,	740	
Total number of patients unable to work,	24,	or 3.24
Total number of patients employed,	681,	or 92.03
Total number of patients employed for less than 1 hour,	3,	or .40
Total number of patients employed for 1 hour,	9,	or 1.23
Total number of patients employed for 2 hours,	40,	or 5.41
Total number of patients employed for 3 hours,	38,	or 5.14
Total number of patients employed for 4 hours,	49,	or 6.62
Total number of patients employed for 5 hours,	51,	or 6.89
Total number of patients employed for 6 hours,	30,	or 4.05
Total number of patients employed for 7 hours,	55,	or 7.43
Total number of patients employed for 8 hours,	406,	or 54.86
	681,	or 92.03

Worcester State Hospital

		Per cent.
Total number of patients in hospital,	1,418	
Total number of patients unable to work,	110,	or 7.76
Total number of patients employed,	1,273,	or 89.77
Total number of patients employed for less than 1 hour,	167,	or 11.78
Total number of patients employed for 1 hour,	185,	or 13.05
Total number of patients employed for 2 hours,	223,	or 15.73
Total number of patients employed for 3 hours,	162,	or 11.42
Total number of patients employed for 4 hours,	69,	or 4.87
Total number of patients employed for 5 hours,	87,	or 6.13
Total number of patients employed for 6 hours,	137,	or 9.66
Total number of patients employed for 7 hours,	71,	or 5.01
Total number of patients employed for 8 hours,	172,	or 12.12
	1,273,	or 89.77

Monson State Hospital

		Per cent.
Total number of patients in hospital,	938	
Total number of patients unable to work,	103,	or 10.98
Total number of patients employed,	787,	or 83.90
Total number of patients in school,	40,	or 4.27
Total number of patients employed for less than 1 hour,	7,	or .75
Total number of patients employed for 1 hour,	15,	or 1.60
Total number of patients employed for 2 hours,	7,	or .75
Total number of patients employed for 3 hours,	52,	or 5.54
Total number of patients employed for 4 hours,	11,	or 1.17
Total number of patients employed for 5 hours,	–	–
Total number of patients employed for 6 hours,	687,	or 73.24
Total number of patients employed for 7 hours,	–	–
Total number of patients employed for 8 hours,	8,	or .85
	787,	or 83.90

Medfield State Hospital

		Per cent.
Total number of patients in hospital,	1,630	
Total number of patients unable to work,	226,	or 13.86
Total number of patients employed,	1,326,	or 81.35
Total number of patients employed for less than 1 hour,	164,	or 10.06
Total number of patients employed for 1 hour,	149,	or 9.14
Total number of patients employed for 2 hours,	171,	or 10.49
Total number of patients employed for 3 hours,	199,	or 12.21
Total number of patients employed for 4 hours,	210,	or 12.88
Total number of patients employed for 5 hours,	169,	or 10.37
Total number of patients employed for 6 hours,	157,	or 9.63
Total number of patients employed for 7 hours,	52,	or 3.19
Total number of patients employed for 8 hours,	55,	or 3.38
	1,326,	or 81.35

Worcester State Asylum

		Per cent.
Total number of patients in hospital,	1,391	
Total number of patients unable to work,	96,	or 6.90
Total number of patients employed,	1,094,	or 78.65
Total number of patients employed for less than 1 hour,	39,	or 2.80
Total number of patients employed for 1 hour,	165,	or 11.86

Worcester State Asylum—continued

		Per cent.
Total number of patients employed for 2 hours,	77, or	5.54
Total number of patients employed for 3 hours,	119, or	8.56
Total number of patients employed for 4 hours,	231, or	16.61
Total number of patients employed for 5 hours,	79, or	5.68
Total number of patients employed for 6 hours,	156, or	11.21
Total number of patients employed for 7 hours,	129, or	9.27
Total number of patients employed for 8 hours,	99, or	7.12
	1,094, or	78.65

Taunton State Hospital

		Per cent.
Total number of patients in hospital,	1,263	
Total number of patients unable to work,	203, or	16.07
Total number of patients employed,	899, or	71.18
Total number of patients employed for less than 1 hour,	39, or	3.09
Total number of patients employed for 1 hour,	54, or	4.28
Total number of patients employed for 2 hours,	112, or	8.87
Total number of patients employed for 3 hours,	286, or	22.64
Total number of patients employed for 4 hours,	114, or	9.03
Total number of patients employed for 5 hours,	17, or	1.34
Total number of patients employed for 6 hours,	255, or	20.19
Total number of patients employed for 7 hours,	1, or	.08
Total number of patients employed for 8 hours,	21, or	1.66
	899, or	71.18

Westborough State Hospital

		Per cent.
Total number of patients in hospital,	1,211	
Total number of patients unable to work,	143, or	11.81
Total number of patients employed,	855, or	70.60
Total number of patients employed for less than 1 hour,	252, or	20.81
Total number of patients employed for 1 hour,	108, or	8.92
Total number of patients employed for 2 hours,	74, or	6.11
Total number of patients employed for 3 hours,	61, or	5.04
Total number of patients employed for 4 hours,	18, or	1.48
Total number of patients employed for 5 hours,	1, or	.08
Total number of patients employed for 6 hours,	341, or	28.16
	855, or	70.60

Danvers State Hospital

		Per cent.
Total number of patients in hospital,	1,455	
Total number of patients unable to work,	294,	or 20.21
Total number of patients employed,	901,	or 61.92
Total number of patients employed for less than 1 hour,	16,	or 1.10
Total number of patients employed for 1 hour,	59,	or 4.05
Total number of patients employed for 2 hours,	167,	or 11.48
Total number of patients employed for 3 hours,	156,	or 10.72
Total number of patients employed for 4 hours,	112,	or 7.70
Total number of patients employed for 5 hours,	105,	or 7.22
Total number of patients employed for 6 hours,	203,	or 13.95
Total number of patients employed for 7 hours,	25,	or 1.72
Total number of patients employed for 8 hours,	58,	or 3.98
	901,	or 61.92

Boston State Hospital

		Per cent.
Total number of patients in hospital,	1,421	
Total number of patients unable to work,	430,	or 30.26
Total number of patients employed,	854,	or 60.10
Total number of patients employed for less than 1 hour,	20,	or 1.48
Total number of patients employed for 1 hour,	116,	or 8.16
Total number of patients employed for 2 hours,	92,	or 6.47
Total number of patients employed for 3 hours,	166,	or 11.61
Total number of patients employed for 4 hours,	63,	or 4.43
Total number of patients employed for 5 hours,	129,	or 9.08
Total number of patients employed for 6 hours,	105,	or 7.39
Total number of patients employed for 7 hours,	149,	or 10.49
Total number of patients employed for 8 hours,	14,	or .99
	854,	or 60.10

Psychopathic Department, Boston State Hospital

		Per cent.
Total number of patients in hospital,	83	
Total number of patients unable to work,	58,	or 69.88
Total number of patients employed,	25,	or 30.12

Foxborough State Hospital

		Per cent.
Total number of patients in hospital,		284
Total number of patients unable to work,		72, or 25.36
Total number of patients employed,		154, or 54.22
Total number of patients employed for less than 1 hour,		35, or 12.32
Total number of patients employed for 2 hours,		56, or 19.72
Total number of patients employed for 3 hours,		4, or 1.41
Total number of patients employed for 6 hours,		2, or .70
Total number of patients employed for 8 hours,		57, or 20.07
		154, or 54.22

Northampton State Hospital

		Per cent.
Total number of patients in hospital,		883
Total number of patients unable to work,		353, or 39.98
Total number of patients employed,		438, or 49.60
Total number of patients employed for less than 1 hour,		46, or 5.22
Total number of patients employed for 1 hour,		32, or 3.62
Total number of patients employed for 2 hours,		54, or 6.11
Total number of patients employed for 3 hours,		20, or 2.26
Total number of patients employed for 4 hours,		156, or 17.67
Total number of patients employed for 5 hours,		– –
Total number of patients employed for 6 hours,		25, or 2.83
Total number of patients employed for 7 hours,		– –
Total number of patients employed for 8 hours,		105, or 11.89
		438, or 49.60

Mental Wards, State Infirmary

		Per cent.
Total number of patients in hospital,		711
Total number of patients unable to work,		127, or 17.86
Total number of patients employed,		348, or 48.95
Total number of patients employed for 1 hour,		18, or 2.53
Total number of patients employed for 2 hours,		22, or 3.10
Total number of patients employed for 3 hours,		26, or 3.66
Total number of patients employed for 4 hours,		47, or 6.61
Total number of patients employed for 5 hours,		17, or 2.39
Total number of patients employed for 6 hours,		29, or 4.08
Total number of patients employed for 7 hours,		84, or 11.81
Total number of patients employed for 8 hours,		105, or 14.77
		348, or 48.95

Wrentham State School

		Per cent.
Total number of patients in school,	640	
Total number of patients unable to work,	30, or	4.69
Total number of patients employed,	610, or	95.31

Massachusetts School for the Feeble-Minded

		Per cent.
Total number of patients in school,	1,595	
Total number of patients unable to work,	420, or	26.33
Total number of patients employed,	1,175, or	73.67

III

Sanatorium Treatment for People of Small Means

Men and women of small means or none are beset with conditions especially liable to break down the morale and to precipitate what in more prosperous circumstances is called nervous exhaustion. It is probably true that the necessity for work prevents many cases of chronic functional illness, but privation and anxiety often produce serious functional disturbances. Mental suffering of this kind is often untreated until it reaches on into the more serious psychoses. The private sanatoriums take care of the situation for those who can pay, but must stop there. Besides the disabled but untreated cases of nervous exhaustion there are among the poor all of the recognized types of chronic organic diseases of the nervous system. At present there are very few institutions where proper medical care can

be given in chronic illness of any kind. There is, as a matter of fact, a great deal besides medical care that needs to be managed for these people. Most of the functional nervous cases and many of the organic disabilities need the occupation which is denied them in the industrial world. Many of these chronic invalids could partly pay for their treatment, and most of them by working under favorable conditions could pay something toward maintenance.

The present chapter will consider especially the situation with reference to the functional nervous cases that are not cared for anywhere, because the more evident disabilities are always first to receive attention. Even if these were definitely charitable cases the overcrowded hospitals and dispensaries and asylums could not give the right kind of treatment. Obviously the State or private charity cannot hope to supply the luxuries of the high priced sanatoriums. Yet the time will come when charity will consider especially the needs of the patient of small means and who can help out a little in the cost of treatment. Charity after all has two sides; it gives for humanity's sake and

it gives because it actually pays to put the fallen on their feet. Accumulated weight of disability in time rolls back upon society with destructive force. Idle men and women mean increased taxation and widespread suffering. Idleness, moreover, too often leads along the paths of violence and crime. Inefficiency in the worker is a great industrial menace—we cannot forever supply the demand for skilled labor unless we do something to restore those who have broken down under the strain of competition and the stress of speed. A new type of sanatorium will have to be invented—it will be neither hospital nor asylum and it must accomplish its results, without much expense to the community. Such a sanatorium seems at last possible through the advent of the work cure. Work, if it is within the capacity of the so-called nervous patient, is often helpful in the highest degree. It is one of the remedial agents that intelligently used may restore and comfort just as it harms when it is over-used or mis-used. Work as a remedy may become an actual pleasure while it brings back confidence and strength and renews wasted nerve and muscle tissue. The work

cure takes the weakened individual and examines him critically to see what he may safely do without detriment to mind or body. Then it proceeds to supply that work as part of the cure. Experience already shows that there is no good reason why work which is used as a remedy should not be made to yield a money return. It looks very much as though work well directed and under favorable conditions might become a remedy for wornout bodies and minds, and as though it might at the same time do something toward meeting the necessary cost of treatment.

Before discussing some of the possibilities of handicapped labor it will be well to inquire a little into the nature of nervous exhaustion. Nervous exhaustion, sometimes called neurasthenia or psychasthenia, is often considered to be a disease when it is really a symptom-complex of widely varying underlying causes. Comprehensive definition would be difficult, yet every one knows the condition. Nervous exhaustion is not only "the great American disease"; it has been for long the great American puzzle. The medical world has finally come to agree that practically every case of

nervous exhaustion has some physical weakness or disability behind it or in it. There are great differences in individual stamina irrespective of physical conditions, but with a regularity that is more and more apparent it is found that nervously broken down people are also physically weak—the subjects of more or less evident defects or disease. Often enough there are local troubles to be corrected or ameliorated, joint affections, broken foot arches, defective vision, poisoning from bad teeth and unhealthy gums, and a long list besides. When the body is in constant distress physical fatigue begets mental and nervous fatigue and irritability. We see the familiar picture of the "nervous wreck," who cannot sleep or eat or even think successfully. No wonder old and new fears and doubts come in to dominate the picture.

Sometimes it happens that nervous patients are examined most carefully by competent medical men who find nothing organically amiss. That otherwise hopeful finding may have most unfortunate results, for it stamps the patient as neurasthenic and makes him in the eyes of the world at least to blame for his

inability to bear the burden and heat of the day. A very large proportion of the nervous breakdowns without apparent cause are now known to be associated with the condition called enteroptosis, in which the whole body droops from muscular fatigue and from a certain congenital or acquired laxity and physical unbalance. All the internal organs, but especially the stomach and intestines, share in the failure of tone. As a result of the bodily drooping we have some of the most distressing forms of indigestion, some of the most intractable cases of circulatory and nervous disturbance. Some day it will be more generally understood that cramped and relaxed bodies are a menace, that they shut up the vital organs in very narrow and unwholesome quarters. It may be shown that even organic as well as functional disease can come about through such interference with circulation and nerve supply. Corrections of posture, the clearing up of old infections, the improvement of muscular and ligamentous tone—all these are slow processes requiring not only time but the constant coöperation of trained workers. We must look to sanatoriums of some sort for

the necessary patience and equipment. Real cure, moreover, is usually not confined to physical improvements. There must be hope and courage, there must be a conception of life fine enough and big enough to bridge all gaps with sufficient faith and understanding. There must be a wholesale clearing away of old and hampering misconceptions, a lightening of fears and other mental burdens. These essentials also require much time for their coming and their coming is more likely under such conditions as the sanatoriums can afford. The usual treatment at home does not get at the bottom of things. Too frequently it leaves untouched some of the great fundamental requirements. Without new training in life and work, treatment can not bring self-respect and self-confidence. In a surprising number of cases of nervous exhaustion, work, under favorable conditions, will do this essential thing.

For rich or poor the market value of effort is deep and significant. Without it there is a sense of futility which is deadly. So it happens that productive work may become, not only gymnastic and so physically restorative, but morally strengthening as well. Within

the writer's observation a man has loosened up the stiffened joints of an old and obstinate rheumatic affection by the use of interesting physical work after massage and electricity, hydrotherapy and mechanotherapy had utterly failed. At the same time he cast off a despondency that philosophy and religion itself had failed to lighten. From being helpless and hopeless he became independent and happy. This is an example of the work cure at its best. If such a thing can be done for one man, it can be done in varying degrees for many.

Sometimes a patient who is nervously broken down has as the chief symptom a fatigue that almost precludes work of any kind. Very likely the patient does not know he can work, or is so alarmed by the appearance of fatigue that he easily gives up. Whether such fatigue is physical or psychic, in hundreds of cases it is possible to bring about efficiency by gradually increasing the effort. This cannot be done carelessly or quickly; it is a problem for experience and skill, a task for the new sanatorium.

There are ample justifications for the work

cure even if it is only a background for adequate medical and surgical treatment, even when it does not rise to the dignity of a positive cure in itself.

The idea of the work cure is not new except in its systematic application under institutional management. It has always been realized that work may be curative, that it may reorganize and regenerate lives that have long been idle. There is danger, perhaps, that the matter may be overdone by indiscriminate application, and that cruel injustice may be visited upon people who actually cannot work. The field, however, is a very large one and it does not stop with the treatment of nervous exhaustion. There are thousands of people in the cities partly disabled by accident or disease, able to work part of the time or under favorable conditions, but who can find no place in the regular industrial systems because they are not fully efficient. The time will come when practical industries will be conducted in connection with sanatoriums or hospitals, industries which will give these people their chance.

It is amazing what skill and expedition can

be acquired by many severely handicapped workers. The reason is not far to seek. They are often trained people, used to harder work, to the fine manual dexterity acquired in their regular occupations.

The sanatorium shop and the general hospital shop have one and the same ends except that the sanatoriums should be able to care especially for nerve and chronic cases, and for a longer time. Both institutions can be made to serve a large class of people too sick to work in regular industries, but able to go to these special shops daily. The hospital shop is very desirable because it may keep families together and save the heavy cost of the maintenance of beds in an institution. But there must sometime be regular housing facilities for handicapped people, especially the nervously disabled, because they will so often need treatment that cannot be carried out at home. These sanatoriums—for such they must be—will have as their aim the restoration of the sick to regular wage earning possibilities, but in many instances they must themselves maintain specialized industries.

It would be very desirable to have some-

CEMENT FLOWER POTS MADE FROM DEVEREUX MANSION DESIGNS.

where a well-equipped and endowed experimental plant where various industries could be tried out, modified, and adapted to new uses. There could be no better opportunity for private charity than the establishment of such an experimental plant. The "station" could study the field in a large way—not only developing new industries, but transferring patients from one institution to another so that conditions might be found to suit the especial industrial capacity of the individual. It is said that few men are doing the work for which they are best fitted. Under a system of handicapped labor it might at last be possible to fit the work to the man. It is not inconceivable that in this way a partial disablement might actually increase a man's earning capacity as well as his health and happiness.

A school teacher broke down in her work a few years ago; she was in fact never fitted for teaching. As a part of the treatment of her disability she learned the art of hand-weaving. She is now earning more money as a teacher of weaving than she did as a teacher in the schools. Incidentally she is cured of nervous exhaustion.

In sanatoriums situated in the country, farming would prove a most desirable occupation, but it would not by any means do for all. There are in the cities great numbers of people who need protected occupation but who would never make good farmers. They are shop workers, city dwellers from first to last; they cannot live happily and successfully in the country. For the benefit of such people the general hospital workshops would be the best, or perhaps sanatorium workshops in the city where manufacturing could be carried on under favorable conditions.

There are very great commercial possibilities for handicapped labor. If the handiwork of great numbers of half-time people can be directed and coördinated toward an adequate end, the results will be surprising. The probable deficit in such industries need not be a severe tax to charity, for a considerable proportion of the patients should be able to pay something for treatment. In this way it might become possible for people of small means to get the necessary sanatorium treatment without paying more than they can afford and without becoming wholly dependent

upon charity. Any one who is acquainted with sanatorium work knows that many nervous patients possess talents and abilities of a very high order. Such an industrial plan might over and over again give back to the world rare genius and ability that would otherwise be lost. These regenerations can come only through the most careful medical and re-educational treatment such as only well-equipped hospitals or sanatoriums can afford.

IV

Teacher and Pupil

If invalid occupations are to be carried out in a large way there will be need of a good many trained people to conduct and to supervise the work. This should be a new and desirable field for women. The business will have to be relatively light because even the men who work will be too much disabled for very strenuous exertions. What sort of person is best fitted to perform such an office and what training will be necessary? Obviously it depends upon the direction taken by the new industries. If, as seems likely now, the ancient handicrafts are used in a simplified way, do we need trained craftsmen for teachers or can the teaching and producing be done by the average girl who graduates from school or college? Experience has made it very clear to the writer that the trained craftsman is often a poor teacher. Probably the best assistants

will be women who have natural teaching ability, who would do well in the schools. The work has to be simplified anyway to make it available for the handicapped so that a woman of teaching qualification but no artistic training might reasonably do very well after the work had been planned and developed by experts. Somewhere along the line experts must come in, but as a rule they should be engaged in experimental work and in the teaching of teachers who will pass on the necessary technique to the invalid pupils.

The shop at Marblehead has had some success in training partly invalided women to be teachers. Although dealing for the most part with well-to-do patients this shop has been able to take at reduced rates a number of young women who had broken down nervously but who were recovering. The idea has been to make teachers or assistants by training these women in various kinds of modified labor. The plan has been a success, generally speaking, although the experience of putting responsibility onto the shoulders of invalids has often been a trying one, both to the invalids and to the director.

Suppose light blacksmithing were to be used as an invalid occupation. (Absurd as it sounds, it is quite possible to use this trade. The making of fire-irons such as pokers and tongs, shovels and forks, is delightful work.) It should be possible to call upon a trained designer for the proportions and the working drawings. Then there must be an experienced blacksmith who will at once go about the actual making of the desired articles. This man, though presumably a good workman, will rarely be a good teacher. In working out the plan he should have an apprentice who has the teaching qualifications. This apprentice will learn how to work the iron, then he or she will take on a pupil of the invalid class who is able to do certain detail work under close supervision. This is the working plan—a designer who may be useful in other departments, a craftsman who need not be a teacher but who can train an apprentice who will teach. In this way the pupils get their instruction; they learn to do what they are told while the trained craftsman is at liberty to go on with his work, producing articles which serve as an example and which help to support the system

by their sale. The apprentice teacher should be able to handle a considerable number of handicapped pupils. It is really a modified factory system in which the invalid is the operative while the craftsman and his apprentice are the planners and directors. The work may be so systematized and subdivided that the feeblest person may do something that counts.

Here then is a new field for designers, for craftsmen and for men and women who are willing to teach detail. These teachers must have patience and tact to be successful, the designer and the craftsman must be skillful and above all there must be competent medical supervision so that the invalid workers may not be overtaxed, and that they may realize that the work is doubly valuable as a money earning expedient and a training back to efficiency and health.

If it is planned, as must often be the case in the charitable institution, to make only such articles as can be used in the households and upkeep of the hospitals, the teachers may possibly be practical workers taken from the regular outside industries. The chances are, however, that there will have to be assistants of a

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more versatile sort—the kind of people who can deal with the human element as well as the mechanical requirements. Especially trained nurses may some day meet some of the industrial requirements.

Any one acquainted with the living conditions of the asylums will realize that the work of teaching is no sinecure. There is much that is disagreeable and even revolting—the girl ready to teach sewing in a city day school is not necessarily prepared to meet these conditions. It will be seen at once that there should be a training school for teachers—a school where the proposed teacher may be brought gradually in contact with the difficulties of the work. Such a school might easily be established in connection with any state hospital. Beyond this, the teaching is essentially a missionary work and requires the missionary spirit. Such schools as that at Northfield, Mass., where the atmosphere is of service and where the training is hard and practical, might well furnish the best of teaching stock.

V

The Trained Nurse and the Work Cure

The average nurse graduating from our best general hospitals is notoriously helpless in dealing with the shifty and uncertain problems of the neurasthenic or mental patient. This cannot well be otherwise, for the hospital has little to do with such cases. As a matter of fact the so-called nervous case is apt to be badly bungled even by experienced physicians unless some definite system of management is applied. If we forget the thousand and one symptoms and look at the case from the standpoint of efficiency we shall begin to bring order out of chaos. The physical cause of nervous breakdown should of course be corrected if possible. Then there remains the inefficiency, the fear, the restlessness and depression. These so-called nervous symptoms, then, constitute an illness in themselves which may be

dealt with independently and often with excellent results. Even if there is incurable physical handicap life may often be made useful and happy when fear and relative inefficiency are taken away. We are too apt as doctors and nurses to think that because a man has locomotor ataxia his usefulness and happiness are over. "Make him comfortable" is the usual idea. Make him as useful as possible is a far better idea, because in making him useful you are quite likely to take away hopelessness and despair; and because you may even relieve some of the most distressing physical symptoms.

The long and patient personal dealing with chronic invalids falls to the trained nurse or attendant. If the nurse has had a training that helps her to make her patient efficient she is likely to be of the greatest possible service. Of course, there are amusements that help in chronic cases, but in the long run some useful occupations will be of far greater service. For this reason the hospital workshops may in time play a very important part in the training of nurses. In these shops the nurse may deal at first hand with the problem of efficiency for the

handicapped. She may see the paralytic learning to use a knitting machine as well as an able-bodied operator. She will see the difficulties to be overcome and will help to overcome them. The hospital workshop will then be comparable with the normal school for the training of teachers—the school where the teacher learns teaching by teaching.

The Teachers' College of Columbia University is starting a course of instruction in invalid occupations for graduate nurses. There are infinite possibilities for such a school. It may be that the hurry of the general hospital will not allow time for the undergraduate to work in the shops. In this case such a course as that at Columbia might well coöperate with the hospitals in giving graduate pupils adequate time as apprentices in the new industries.

There are, of course, many nurses who will specialize in surgery for instance, and these might not find it profitable to deal with invalid occupations. So the work training may have to be optional. But that it can be extremely useful to some, there is no doubt.

It is true that nurses taking private cases

might rarely wish to find real work for their patients. It will some day be understood, however, that real work is the best training for the efficiency that every patient needs and desires. There will be opportunity for the nursing instinct and judgment to be used in holding back those who are too eager and in urging those who are loath to exert themselves. There is a whole profession in this function alone, for the nervous invalid is prone to grasp at a new idea, to try it feverishly and to fail. Failure is the rule for a considerable time. Patients must be taught that the first step is to adapt the occupation and the whole life to the existing limitations—to do this not grudgingly but hopefully and thankfully. This means getting a footing. This first foothold will sometimes be all that can be gained, but often, after a time, indefinite progress usually becomes possible. The nurse trained in the efficiency idea will realize that too rapid progress for the invalid is fatal to success. She will understand that much happiness and general improvement may come from some very small accomplishment. She will have the satisfaction of knowing that in many cases she will have the chance

of restoring full efficiency and happiness where these might never have come.

It is an open question whether the apprentice teacher or craftsman in the hospital or sanatorium workshop should be told the nature of the disease with which she deals or the intimate history of the patient. Sometimes such knowledge would be of decided advantage to both parties. On the other hand it is true that without a great deal of hospital training medical information is often misunderstood and misapplied. There are undoubtedly some industrial teachers, not nurses, who can make excellent use of professional knowledge. As a rule, however, the physician will need nurses to help him out in dealing with the whole problem. These especially trained nurses will form an important link in the new industrial system. They will have the confidence of the patients and the physician, teachers and craftsmen. In many instances they will themselves be the best teachers to serve under the craftsmen.

It will be well to warn here against a tendency to teach nurses a smattering of a few amusing occupations—these may be well

enough for convalescent children, but the nurse to be well equipped industrially must go into the workshops and work herself side by side with the patients. The occupations taught to nurses must be real and legitimate, not foolish "fancy work."

VI

The Well-to-do Patient at Work

It is no longer a strange thing for doctors to advise work as a remedy for people who have never known the significance of manual occupations. Many people are nervously ill because their lives lack purpose and dignity. The rush of social engagements, the stimulation of travel, the search for amusement—these things may satisfy for a while, but they are not enough to last. It is true that we would not always wish to make weavers or potters out of the daughters of society. But these young women, when they go to pieces nervously, do so sometimes because there is no depth and substance in their lives. There is an "aching void" that is not filled, especially when they fail to marry. The handicrafts can hardly fill this void, but when the nervous invalid gets down to honest work with her hands she makes discoveries. She finds her way

along new pathways. She learns something of the dignity and satisfaction of work and gets an altogether simpler and more wholesome notion of living. This in itself is good, but better still, the open mind is apt to see new visions, new hope and faith. There is something about simple, effective work with the hands that makes men creators in a very real sense—makes them kin with the great creative forces of the world. From such a basis of dignity and simplicity anything is possible. Many a poor starved nature becomes rich and full. All this is aside from the actual physical gains that may come from new muscular activities.

The tired business man who seeks relaxation and refreshment by running through European capitals is apt to be disappointed. He will sometimes be disappointed when he does better than that and takes the course at Carlsbad or Vichy. He is still dealing with too complex and highly evolved things. For real rest his mind must get down to primitive life. This need not always be in a medical workshop, though theoretically that should be the place. Sometimes a walking trip or a shoot-

ing expedition will do. The trouble with these expedients is that he gets away from medical advice, a very good thing to do if he is well enough, and a bad enough practice otherwise. A patient who tried the work cure at Marblehead and who used blacksmithing as a means to the desired end, said after working for a week, "It is the most refreshing thing I ever did. When I get to thinking about myself or my business, I burn my fingers. I keep my mind on the iron because I have to."

Medical workshops in private practice or in connection with sanatoriums will come more and more into vogue because the need of simple work for nervous men and women is becoming every day more widely recognized. It is not enough to say to the sensitive and overwrought woman, "You need to simplify your life by work with your hands." We must be more explicit. The direction of such work is a fine art. A man nervously ill may try to work in the garden on the advice of his physician. The result may be a miserable failure with an added disgust for gardening because such general direction will not do at all. The patient must know how much work, just what kind of work,

and when to do it. To direct work carefully, to know when to advise it, and when not, is an especial branch of medicine requiring experience and equipment.

For the well-to-do there are very attractive possibilities along the line of medical occupations. It should be possible with the aid of a silversmith, for instance, for the overwrought lawyer to acquire an avocation that would keep his mind in the best possible condition. Golf might do it, but the season often interferes and there is something about work with tangible results that discounts sport in the end.

For the well-to-do, work with the hands may be a potent remedy against the harmful effect of idleness. Last of all it may open the heart and mind to a greater respect for labor. If men who are themselves benefited make it possible for handicapped people of the poorer classes to find specialized and adapted work when they need it, then the work cure will have fulfilled a wide and useful purpose.

VII

The Industrial Problem of the Tubercular

Experience has shown that the tuberculous patient, except in the actively febrile stages of the disease, is not only capable of a good deal of physical exertion but that he may be actually benefited by it. Nevertheless the known possibilities of contagion, and the general prejudice against work for invalids, have greatly narrowed the field of possible occupation. Vast numbers of tubercular convalescents await a possible release from the economic and moral slavery of idleness. The "arrested" tubercular cases, when they work at all, drift back naturally to their old occupations and to the old conditions under which the disease developed. The unsuitable occupations are the recognized cause of a great proportion of the relapses. With the tubercular it is the cardiac situation over again—the same

necessity for work, the same certainty of breaking down and the same poor economy for charity to build up the patient only to have him break down again and again—coming back for more expensive hospital or sanatorium treatment. It is poor economy and it is to a considerable extent an unnecessary waste, for as has been demonstrated in a small way with the heart cases—a lighter, more favorable labor may not only bring its money return, but may prove a positive therapeutic value.

The situation for the tubercular does not present all the difficulties of the cardiacs because the regular work of the tubercular is usually not so severe in physical exactions. A very great proportion of the tubercular in cities comes from the garment industries. Here we shall find excellent conditions for transmission of the disease. Here are close, hot rooms full of dust—and many workers in small space. In these shops there are usually inadequate lavatory accommodations and a thousand opportunities for direct infection. The hours and the work itself are trying enough, but the actual physical effort is often not so very great. If these people could work at the same trade

under very much better conditions it is reasonable to suppose that there would be less tuberculosis. Suppose an out-of-doors shop in summer, and an especially ventilated one in winter —suppose plenty of space between machines and every hygienic facility—such a shop would be a good place for the tubercular convalescent to work. He would have the tremendous advantage of using his own well-learned trade and if he were guarded against overwork it is reasonable to suppose that he would be far less likely to break down than would be the case if he went unrestricted back to the old shop. If practical clothing manufactories could be established in connection with the tubercular sanatoriums or the tubercular camps in the cities we might see a great advantage gained in the fight against this disease. There are many points in favor of such a plan. Its hygienic and economic benefits might be enormous. The State could well afford to pay the market price for the products. If the labor unions were to object to this kind of labor the answer is very simple—let the product be paid for and used by the State. Another and more insistent objection will be

raised: Is it not dangerous to put into use garments made by tubercular workers? The answer is straight and strong: There is scarcely a regular clothing shop of any size that does not employ, knowingly or unknowingly, tubercular workers. There is no attempt made to sterilize the products—they are sent out and accepted by the trade. Undoubtedly, the garments made in the regular shops carry possible infection. The garments made in special—tubercular—shops would all be sterilized as a matter of course—they would therefore on the chances be safer to use than those from the regular shops.

It has been suggested that tubercular convalescents be settled on farms, that they attempt market gardening and the like. Here the objection to tubercular labor is plain enough. Most city dwellers would find farm life wholly impractical because they prefer the city and do not like farming, which is quite out of their line. More than this, while market gardening and farming might be ideal work for the tubercular, there would undoubtedly be possibilities of infection.

The tuberculosis camps and sanatoriums are

performing scarcely more than half their duty when they cure or arrest the disease. They are not fulfilling their duty even when they maintain a corps of social service workers or nurses to go to the homes of former patients in the interests of hygiene and social betterment. Sooner or later the State must take seriously the problem of employment for the tubercular convalescents. If the tubercular are state charges, it is only fair and reasonable that they should partly support themselves, if this is possible without detriment.

Unquestionably it is good judgment to make use of already learned trades if these can be adapted to the new requirements. The clothing trade seems to offer many advantages—chief among which is the fact that the product could be used and regulated by the State, and that the State might well afford to pay the workers enough to make the exertions worth their while. Foremen and skilled instructors could undoubtedly be found—the business end could be taken care of. There should be no delay in trying out a plan that promises so much.

VIII

Handicapped Labor and the Law

Workingmen's Compensation is still new in this country. It is as yet impossible to predict what the final adjustments will be. This much is certain: that the manufacturers must pay something, probably two-thirds of the injured employee's usual wages during times of disability even if the disability is long continued. This payment will usually be made of course by the liability companies. In Massachusetts, at least, the liability company diminishes its payments proportionately if any money is earned by the workman during the period of disability. Furthermore the company has the right to find or recommend light occupation for the injured workman. If this occupation is approved by a board of arbitration the workman must perform it or lose his compensation altogether. It is evident that this provision would do away with unneces-

sarily long convalescence on the part of individuals inclined to take advantage of the liberality of the law. Apparently the liability companies might with profit to themselves and advantage to their clients actually assist in the founding and maintenance of specialized industries for the partial employment of the handicapped. Let us suppose that a man earning $10 a week is disabled by a crushing injury to one hand. Some of these injuries are a long time healing—four months might not be an unreasonable period of disability. This would mean a total payment of $106.72. If after the first month the man could earn $6 a week in a hospital workshop the company would make a saving of $4 a week for three months—a total of $48. It would not seem an unreasonable arrangement to return half of this saving to the workshop and some portion of the other half to the employer in the way of reduced premiums.

If these specialized workshops are under hospital control there will be no danger of injustice to the handicapped worker, for the physical condition will be carefully studied and the work carefully adapted to the case. This

is a new aspect of the situation but one worth the consideration of employers, insurance companies and hospitals.

Industrial accident problems are likely to grow more and more perplexing for some time to come. The number of the unemployed will be increased by the unwillingness of the insurance companies to allow the handicapped in any regular industry. The companies cannot be blamed for this because the danger of accident is increased by such employment. So we shall see the growing necessity for an adequate system of handicapped labor—protected and encouraged by manufacturers, by insurance companies and by the charities. From the point of view of the injured employee there is advantage both moral and financial to be found in low pressure industries. So far as early and very limited observation go the men are as a rule glad to be at work, especially when it means the learning of a new trade which may save them from final dependence. There are many cases in which the injured employee through no fault of his own gets out of the way of work—loses his knack and becomes dependent. Sometimes a carefully conducted

campaign of modified occupation would save such an unfortunate occurrence. There are many trades which could support a hand working department on low wages with benefit to all concerned. The product would be small but it need not be inferior and it is conceivable that cleverness of design and special workmanship might produce surprising results. It is probable that the employer could afford in many instances to conduct such a side line since he would pay less for his product and since he might in this way reduce in time the size of his insurance premiums.

PART II

I

Teaching of the Handicapped

Introduction

In directing the handicapped, the manual training teacher must solve many complex and peculiar problems.

The work here described covers about ten years of personal experience, and includes groups of handicapped students, such as those deformed from childhood, those crippled by accident or old age so that they have ceased to be wage earners; and a large number suffering from functional and organic nervous diseases, and from mental diseases.

In some cases work has gone on with the same pupil for several years, and he has become sufficiently expert to need only supervision, not instruction, and to earn a modest income. It may be definitely stated that the

work has been sufficiently hopeful to be convincing of the great possibilities of handicrafts in the future, not only as a means of reclaiming to productive industry many at present incapacitated through illness or lack of proper training, but as a therapeutic agent of great value. In every community, even the smallest village, there are people who never get the satisfaction which work gives. The household industries of a hundred years ago were usually carried on in such a way that even the crippled and mentally deficient had their share, and there were few drones in the hive. Weaving, shoe making, coopering, cane and rush seating, netting, and other handicrafts were planned so that some humble share could be assigned even to the least efficient. It appears that it is through such simple means that the incompetent may still be rehabilitated. Some of these industries can, of course, be carried on better by machinery, but there are many which, like chair caning and cobbling, can still be best done by hand, and others in which coöperative work can be done, as in cement work, so as to employ several individuals.

In the large cities the hospital clinics are

visited by "chronics" who never get quite well enough to work at anything our complex city life affords, and often end prematurely in the almshouse. Among such are rheumatics, paralytics, cardiac cases, the partially blind, all able to do a little if only the way could be pointed out, and that along lines where they would not compete with other people struggling to earn a livelihood.

The ideal plan in the work cure is to have a craftsman who plans the work, the details of which are carried out by a teacher or a teaching nurse. But in many places, especially where the work is first introduced, the designing and teaching fall to the lot of one person.

In order to succeed in teaching any craft the instructor must be familiar with every detail and enthusiastic over that particular industry, but if her mind is so concentrated on fine craftsmanship that she is indifferent to human interests, she will surely fail in this new field. She is not merely teaching him how to work, but how to think, how to use disused members, how to work *effectively* when he is unused to working at all. She must be able to rouse interest in him when he does not want to be in-

terested, and to detect the difference between laziness, which she has to help him to outgrow, and fatigue, which she must give him a chance to overcome by proper rest. She must be prepared for sudden flagging in interest, and "off days" when nothing goes right with him. She may be so fortunate as to have a physician to do some of the thinking for her, and a nurse to watch the signs of fatigue, but still the fact remains that the brunt of the daily routine must fall on her, and if this constant adapting of the work to individual needs seems boring to her, she is not fitted for this kind of teaching; if she is adapted for it the difficulties enumerated will only add zest to the game.

The quality which is indispensable in a teacher of the handicapped is an ability to rouse interest, and this can be largely cultivated. All manual work is in itself so full of charm that the teacher ought to be able to select the salient features so as to call the patient's attention to them, even in humble industries like basketry; but she must be perfectly familiar with her subject; for instance, a basketry teacher ought to know how to make at least twenty kinds of baskets for every con-

ceivable purpose, and have some good samples, and then she has a sure frame work on which to build up her fabric of interest.

A very necessary quality is patience—willingness to look ahead for results, to work with almost imperceptible advance from day to day, sometimes to allow for backslidings in health or interest on the part of the pupil and to overlook little peculiarities due to invalidism or depression, such as irritability and fits of pique against the teacher or the work.

Another quality to be cultivated is farsightedness. The question often arises as to how a certain person should be trained. Physical and mental ability must be considered, but the work selected should be based on the physician's judgment. Is the work given to be a temporary diversion, a means of cure, or is it something to be part of the patient's life, either as an absorbing interest or a source of income? In the first instance the teacher might be justified in giving pieces of work pleasing as specimens, which do not show any special progres sion. A convalescent from typhoid might be amused by work which would be a waste of time for a cripple who needed to spend his time

on something which might be helpful to him physically, or lead to some financial benefit.

Physician and Teacher

There must be a complete understanding between the doctor and the teacher as to how much may reasonably be expected of the patient. No person so ill as to be in a sanatorium or under the care of a physician at home can work like a normal individual. The amount to be done, the nature of the work, whether it should require much or little physical strength, whether it should stimulate the creative powers or be of a restful monotony, all these points should be made clear to the teacher. Such conditions can be condensed into a few words on a card, as per example—

May 1, 1914

Occupation work
Mrs. X—Room 50
Light occupation in bed.
Basketry or Knitting.
Not more than 1 hour daily.

————————, M.D.

May 1, 1914

Mr. D——, Ward 2.
Occupation in workshop.
Heavy Work. 3 hours daily.
Running Printing Press.
————————, M.D.

The teacher's province is particularly to start the patient working, and make him feel that work is worth doing. The carrying out of the directions may then be left to a nurse or an attendant. Often the physician can pave the way for the teacher by trying to interest the patient and make him feel that work is a privilege, not a penance.

The question as to whether it is necessary for the teacher to know the diagnosis and family history of a patient is one often raised by new teachers. Generally speaking, it is not necessary. Work is one of the few normal habits left to the patient, and the nearer he can approach to health in his relations with the teacher the better. A knowledge of the nature of his illness and the causes leading to it are liable to lead the teacher and patient into unprofitable conversations.

On the other hand there are certain diseases in which the therapeutic value, and there are others in which the social value of work is greatly enhanced by the knowledge of the patient's especial discouragements and disabilities. Where the physician feels that the teacher can coöperate with him more closely by knowing the nature of the patient's malady, he will generally be glad to inform her. Work for a definite aim is naturally more interesting to the teacher, and the writer's own experience has been that when she worked intelligently with the physician to obtain a certain result the occupation was much more satisfactory.

The teacher should remember in making reports to the physician in regard to occupation work that they should be concise. Where there is any marked peculiarity, such as long continued apathy in regard to work, or stubborn opposition, it should be reported, as it may indicate an abnormal mental condition.

The physician who has a trained nurse looking after a patient can call on her to aid the teacher, who may see her pupil only three or four times a week. Generally the nurse be-

comes interested, and works with her patient, which is stimulus to both.

In some hospitals, occupation work for nurses covering only work which can be done without equipment in the patient's home has proved useful. The course includes the making of a few reed and raffia baskets, caning a chair, binding a kodak album, etc., and takes one evening a week for six months. It enables the nurse to supplement the work of the craftsman teacher, and in some instances, to work with the patient without this supervision. Nearly every nurse who has taken this work has reported it as being of practical value, particularly in dealing with nervous invalids.

Study of the Patient

Work with invalids may be roughly grouped into two classes:—

A. Palliative.

B. Remedial.

What is called diversional occupation might be put into the first group, and would be suitable for patients in receiving hospitals who remain only a week or so for diagnosis, and for

patients in the advanced stages of cancer or tuberculosis, to whom nothing could do more than brighten the weary hours. (Yet some very good work is done in homes for incurables and it may be noted that even with such hopeless cases real work like basketry, knotted raffia bag making or coarse knitting, seems to give more pleasure than the making of egg-shell dishes, and paper furniture, sometimes called diversional occupation, but which would seem most suitable for children.)

Remedial work may be subdivided into that which is done—

1. For its therapeutic value, as a means of treatment, and that which is done—

2. For its economic value, to enable the pupil to become master of some handicraft which will bring him money.

The remarkable success which has followed the attempts to teach industrial work to the blind and crippled show the possibilities along these lines. Other groups, like epileptics, cardiac cases, dementia praecox cases, etc., are now being worked with in the same way to put them in a position to earn a livelihood.

In the effort to consider the practical value

of occupation work, the effect on character must not be overlooked. Work is so much a part of the normal human life that the absence of it for any length of time throws the individual out of balance. In old people's homes the inmates are often full of petty feuds and foolish animosities; in nearly every such institution where occupation work has been introduced life has become happier. In hospitals where patients are allowed work to while away the time, they have had one tie to hold them to the work of health and activity, and have had, too, less time in which to meditate on their own sufferings and on the shortcomings of their nurses. They have often got new interests in life. Industrial teachers have often received letters of thanks from patients taught only a few weeks.

In choosing work of economic value it is important to know whether the prognosis for the patient is for an early and complete disability or for a long semi-invalidism. The patient should always be studied for some time before any handicraft is chosen as a possible means of livelihood.

The attitude of the patient toward work is

often puzzling to the inexperienced instructor. The habit of invalidism is the strongest habit in the prospective pupil, and to bring him back to the normal attitude toward work as an essential part of the daily routine takes tact and perseverance. There are some pupils who plunge into work with a feverish eagerness, which, if unrestrained, soon tires them out, and there are others who are so preoccupied with their symptoms that they have little thought to spare for work. Besides these there is an apathetic class, easily bored, complaining of a fatigue for which there is no cause apparent to the teacher, in the physical labor attempted. This is perhaps the true neurasthenic type, easily tired and easily worried. The patient of this type frequently becomes interested and finally enthusiastic; he often develops resources hitherto unsuspected, even by himself, and his return to health may result in his living on a higher plane than before his illness.

Another type of patient shows an apparent indifference, a dullness which is almost lethargic, due to an organization so poorly endowed that he must be counted a "constitutional inferior" or a "mental inferior"; he lacks

vigor of mind and body; his perceptive faculties are dull, and his muscles flabby so that little beauty reaches him through the senses, and he cannot get much pleasure from using his strength or skill. A most unpromising outlook, yet such individuals, children and adults, have frequently a surprising degree of "stick-to-it-iveness," and well chosen work simple enough to be done well, but not lacking in variety, may provide a road along which they may walk happily. Our complex civilization offers a poor foothold for such as these, but the teacher who can understand this apparent indifference, and rouse the latent activity, may find there is truth in what William Penn once boldly asserted, that "Industry supplies the want of parts."

Helping such individuals as this is peculiarly the province of the teacher, rather than that of the physician or nurse. There must be a continued appeal to the pupil's interest and a constant variety in the method in which work is presented, with adults as well as with children of this type. If there is any one talent, however trifling it may seem, it must be made much of to give self-confidence. Much work

of this kind is already being done with children, but it is the writer's conviction that in a few years the field will be enlarged to include adults who have never "made good," but who, under proper training, will develop unexpected capabilities. "Efficiency tests" such as are now used in many industrial concerns may in time be applied to bring out abilities in such persons. Meanwhile, it will be seen that the initial attitude of the pupil, in any of these groups, counts for little, and the teacher's attitude is the important one. If she is fully convinced herself that honest work is the backbone of life, her work-room will be cheery, and her pupils, no matter how depressed on beginning, will become imbued with this optimistic spirit of the true craftsman who sings at his work. If there are expert workers who are not invalids, or those cured of their ills, working at the same craft, it often adds to the feeling of stability on the patient's part. Work no longer seems a therapeutic agent, ordered by the doctor along with Nauheim baths, and eight eggs a day, but a natural, wholesome part of life.

II

Methods of Teaching

The methods of teaching invalid pupils must vary with the facilities at hand and with the nature of the diagnosis. Sufferers from purely physical maladies uncomplicated with "nerves" may work together comfortably in large classes for several hours at a stretch. They often show unexpected powers of endurance; cripples, especially, seem often to be able to work a long time without change of position. Perhaps nature in adapting them to live handicapped by deformity has given them an armor which makes them fatigue-proof. Often, too, suffering has given them "the philosophic mind," and they can make the best of circumstances and work skillfully and happily under trying conditions, unwilling to admit that they are tired. As a matter of fact, physicians assert that few cripples are incapacitated for steady work, and the considera-

tion of methods may concern itself with physical conditions, such as proper tables and chairs for individuals, and the selection of work, adapted to peculiar physical limitations.

The methods of work with those suffering from nervous and mental diseases is a much more complex problem. The question of the necessity for individual teaching is an important one. Wherever possible, the worker should be made to feel himself an essential unit of a whole; but in many cases, if he is unused to work, he must have an opportunity for undisturbed effort until he becomes accustomed to the work-room. A secluded corner may save much weariness of mind and body, as well as the avoidance of errors in his work. The noise of machinery, conversation, or any outside sound, disturbs the attention of one long unaccustomed to work. Often such a patient does better at first in his own bedroom; his interest can be roused so he is in a receptive attitude toward work in the shop before he begins to work there. On the other hand, some depressed patients become interested at once in the work of others; their spirits rise with the sight of cheerful, industrious people, and

the sooner they get in the midst of a group the better. Such points in regard to the management of the work-room may generally be best settled by the physician who knows the patients' temperaments. These details are much more important than they may appear. We all remember that the nearest neighbors in our school days were influential in helping or hindering our work; no one is so completely absorbed in work as to be oblivious to his neighbors, even in a factory. This is eminently true in regard to the grouping of workers where the craftsmen are invalids, and great tact must be used in order to keep the atmosphere wholesome. Praise for *effort* should be given ungrudgingly; but praise of *results* should not be too lavish. Sometimes a piece of work which looks very simple is the first actual accomplishment for years in the way of handicrafts, and to carry it to completion is a milestone in the way to recovery. It is often difficult to decide whether a patient should stick to one thing until it is completed, or should be allowed variety. There are some nervous invalids who are always craving change, their interest needs continual fillips produced by new work. Such

patients may have been under the charge of many physicians, and may have wandered from Maine to California. Trying to hold them to one thing sometimes arouses stubbornness. It is a good plan to have a variety of the same kind of work, so that the interest may be kept up, while the patient is still working at the same craft. Sometimes, too, it is wise to allow the patient a liberty of choice in order to find any genuine talent for some kind of work.

III

Readjustment

One who falls a victim to any organic disease may remain the same in character, his qualities and inclinations may be unchanged, theoretically he may be the same individual, but not infrequently he has changed from a plus quantity to a minus. If he becomes a plus again it is because his efficiency has survived, and he has devised some means by which he can carry on his work, or because he has manifested an adaptability which has enabled him to turn his energies into new channels. But, unfortunately, before he is in a condition to readjust his life to changed circumstances he must go through a period of mental struggle, if he is at all sensitive, almost as hard to bear as his physical pain. To become a burden to his friends, or worse still to rely on public charity, to become unable to walk, to have years of suffering as his only future outlook,

these forebodings of evil only too often rivet his attention. Character is prone to deteriorate under such a strain; the patient is liable to become despondent, leaning on others and demanding an unnerving pity which makes him feel more and more that his sufferings are undeserved, or he may shut himself away from the natural wholesome sympathy which would give him new courage. This point is illustrated by a physician's letter to a patient suffering from an agonizing form of heart disease, in which the following sentence occurs:— "Physical pain is an insidious enemy, and we cannot come to the end of the trap that it can lay for us in our imaginations. Above all, avoid falling in love with your own inevitable isolation; and do not use the conquered torments of your body as stones to build a walled castle for your mind." Perhaps no real physician would write to a patient in such language (this one lives in the pages of a novel), but he has hit on a danger which needs pointing out, and one in which a thoughtful teacher can be of great service to his patient.

The teacher who is associated in the patient's mind with the activities of life, with

work and wages and other mundane interests, can help hold him to these, so that he will not necessarily feel himself out of it at all. However handicapped he may be physically, he can be made to feel himself still an individual unit in a world of working men and women, that his efficiency is merely in abeyance, not lost.

This period when the patient is trying to become accustomed to his unfamiliar physical disability is perhaps harder for him to bear than an actual burden of invalidism in the later years—but frequently it is the teacher's great opportunity. The results of occupation work are too often measured in terms of so many baskets or so many pages of typewriting. Keeping alive the desire for efficiency, and stimulating the imagination toward developing new resources are always legitimate efforts. With the return of a more normal state, when mind and body have become habituated to new conditions, the interest in occupation may well become a dominant one. Possibly stored up reservoirs of energy are tapped; at any rate, there is often a surprising degree of adaptation to changed conditions, when there is no great improvement in actual health.

One of the most important features in re-education is the opening out of broader interests to those who are liable to remain incapable of getting out. The "shut-in" may be a pitiable object, or he may be a person with a wide knowledge and a philosophical mind. It is well within the province of the occupation teacher to open new channels of thought, and to clear out the débris from long disused ones. Any one familiar with hospital life knows that the usual basis of thought is illness, comparison of symptoms and personal experiences in regard to physicians and nurses. In any large city hospital there are many nationalities represented, and there are possibilities for real social intercourse. The subject of national music, for instance, is one of real interest, and among those from country districts, the methods of agriculture, and primitive industries. Men and women whose recent work has been in the monotony of factories, or of crowded tenements, recall with pleasure the scenes of their childhood in Europe. Old crafts are discussed, and interest in handicrafts is stimulated by such social intercourse. Basketry, for instance, has been the subject in the writer's

classes, where the pupils were Italian, Russian, Hungarian, and sometimes German or Austrian. The revival of old memories seemed to distinctly stimulate their mental life.

Men and women alike seem to be benefited by their interest in a common handicraft. What may be called the cultivation of the power to exchange ideas is often sadly lacking in the lower classes of the great cities. If, as has been said, "The happiness of life depends very largely on being able to get into ready touch with the mind of others," it is worth while for the teacher to encourage these discussions of work. All handicrafts go back far into the history of the race, and are connected with every phase of life. An interest in any one of them must be wholesome, even if they do not offer fields of employment to the handicapped.

The work of the occupation teacher frequently overlaps that of the teacher of reeducational physical exercises, so in this phase of readjustment the physician should be the one responsible for every step taken. In certain forms of paralysis, for instance, manual work often aids in the regaining of the use of

the affected members, but as the work given should be planned in relation to the cause of the paralysis it should be prescribed by the physician. In some cases the patient needs to be encouraged to use his will, to get control of the part affected; in others, the less consciously the effort is made the more beneficial the effect. Some of these cases will be taken up in detail later on. In general, it may be said that therapeutic manual work is particularly helpful in the treatment of all physically handicapped patients, who find more interest in it than in calisthenic drills.

IV

Organic Nervous Diseases

Tabes (*Locomotor Ataxia*)

In order to thoroughly test the value of occupation work for those suffering from organic nervous diseases it is essential that the teacher have the opportunity to come in contact with each patient for a long period of time. This is not often possible, as the patient frequently changes his hospital or his physician, usually in the vain hope of speedy recovery. Often, too, such cases come from the shifting part of the population, unskilled laborers accustomed to working wherever they can get a job, in the habit of moving often, so that it is difficult to keep track of the home address. The nature of certain maladies is such as to make the victims restless, and to sap their ambition. Persons crippled by accident are more desirous to become self-supporting than those handicapped by disease. There are certain ail-

ments which tradition has credited among the ignorant with causing a slow and painful death in life. Tabes is one of these. As a matter of fact, however, there are many tabetic men and women who are able to earn a good livelihood, some in their regular avocations, and others in new ones, adapted to meet their changed conditions. The discouragement and restlessness of many of these individuals therefore seems to be partly due to an unnecessary lack of self-confidence.

The following records of tabetic patients who have been under observation as pupils for the last six years show what good work can be done by an average group of comparatively helpless men and women, all past middle life, and in a home for chronic invalids. They have good living conditions, simple food, regular hours, and cleanliness. No lessons have been given to reëducate them in walking, and the only exercise most of them have had is that incidental to making baskets, caning chairs, etc., yet only one of this group has failed markedly in the six years; on the other hand, they are all able to use their hands better, some are able to walk better, and all have a better mental outlook

BASKETRY AND WEAVING DONE AT BLOOMINGDALE HOSPITAL, WHITE PLAINS, N. Y.

owing to the fact that they are able to work, that their lives are regulated by a systematic routine, and that they have broader interests growing out of their common tasks. The teacher of this group found constant encouragement necessary at first. It was very difficult to inspire a belief in future efficiency. This constant optimistic attitude had at last a distinct therapeutic effect. Encouragement became less and less necessary and self-confidence returned.

CASE I. Swede. Male. Age 50. Electrical engineer.

When his lessons began he had been ill five or six years; had gradually become unable to walk (on entering the hospital he used a wheel chair), thought he could not use his hands for any fine work; had become unnaturally taciturn; was at first unwilling to try to make baskets, as he called this "peasant's work." He soon began to use his hands freely and became very proficient. His work is so good as to sell at the sales of the National Society of Craftsmen, and he has learned to make seventy-five distinct styles of baskets. Many of these are variations of the Swedish birds' nest basket,

flower baskets, etc., which he saw in his youth. He still finds walking difficult, and while he walks two miles a day for exercise in the corridors in the hospital he keeps one hand on his wheel chair, pushing it in front of him. He cannot use a hammer or saw, or do any work requiring much strength, but his lower arms and hands are entirely under control, and he has resumed the study of the violin, which he had been unable to play for many years, and plays with great delicacy. He is able to do mechanical drawing again, and is in hopes after twelve years of invalidism to take a residential position in a school to teach draughting and manual training.

CASE II. Colored. Male. Age 36. Carpenter.

Was in bed nine months before industrial treatment began. At that time he was up and beginning to walk, but with much fear of falling; said he was unable to walk at all without a cane; could not use hands well; had difficulty in dressing himself; he welcomed with eagerness the chance to try some basketry, but could not make reed baskets. After some experimenting the teacher found he could use very

fine materials and do raffia work sewed with a needle (like Indian basketry), but he could not thread a needle, nor pick it up in case he dropped it. He had, however, a great degree of persistency, and natural courage. He soon got control of his materials, although he says he still has no feeling in his fingers, but that he has learned to "manage without it." His work is artistic in color, and the designs are worked out very accurately. His baskets are sold by the National Society of Craftsmen for from $5 up. He is able to do fine work as his eyesight has remained good. He is beginning to use his arms, and is trying chair caning to get control of the upper arm. He tried weaving, but could not prevent the threads tangling because of the numbness of his fingers. He walks better, but sometimes falls. He had formerly a good singing voice. For two or three years he could not control it, and it was harsh, discordant, but the quality has returned, and he is able to control it well enough to sing in a choir.

CASE III. Colored. Male. Age 50. Nearly white, part Irish.

"Handy Man" who never had a trade; had

been ill five or six years; walked with great difficulty and preferred to use wheel chair. Had frequent attacks of indigestion and spent nearly half his time in bed in great pain. Very irritable and quarrelsome, no interest in life, no mental resources, convinced in his own mind that "he could never be any good." Refused to try any occupation work, until he saw other patients *sell* work. As soon as he began to work he became interested. His work at first was crude, his hands were not under his control. He soon began to develop originality, and on his bad days lay in bed, and planned what he would do when he got up. His progress toward good work was very slow but he can now do both basketry and chair caning. He makes very large, coarse raffia baskets, very substantial and decorated with animals in quaint designs, owls, parrots, bluebirds, and even bulls and deer. He can sell all he can make at $4 each. His eyes are very defective; he walks badly, but he is happy in his work, in fact, his nature has changed considerably for the better. Previous to this time he had no opportunity to learn any work that was either interesting, or well paid, and he has also an

artistic instinct which never had the opportunity of expression. He is able to buy his own clothing, and to pay his own carfare for short visits to his friends, and gets great satisfaction in not being entirely an object of charity.

CASE IV. Englishman. Age 49. Cabinet-maker.

Had been in hospital one year; walked very badly, and had trouble with his eyesight; could not lift a heavy hammer, nor control his arm to drive a nail. He was, however, able to learn to weave on a hand-loom very quickly, and had no difficulty except in threading it. His work was salable from the first. He also learned reed basketry, and filled an order for five dozen baskets from a florist. He was very easily discouraged and his lack of control of his fingers exasperated him. His threads became tangled in weaving, and he fumbled with his basket materials. He constantly compared his former skill with his present inefficiency. He recovered the use of his hands somewhat, and was able to do part time work on the switch-board as telephone operator, and he also walked better so that he could act as a mes-

senger for the hospital, as well as do industrial work. Later he had a general breakdown, and is just recovering after several months in the hospital ward. He walks well.

CASE V. Light, or "bright-skinned" colored woman, with some Indian blood. Age 60.

When lessons began she had been ill five or six years; walked with difficulty with a cane. Hands jerked when she attempted to move them. Very irritable temper; complained of her eyes troubling her and of headache; willing to learn basketry because she was under obligations to several people to whom she would like to make a present. She became interested at once, and showed great persistency, and some color sense; had difficulty in controlling her hands, but work on a small hand-loom seemed to help her regain control of them. She has never shown much originality, but her work is exceptionally firm in quality, and she has better control of her hands, but cannot do fine sewing. She walks about the same as ever, using a cane. Her work has been of great benefit socially, as it keeps her happily occupied, and affords her a means of working

off her irritability on an inanimate object instead of on her neighbors.

CASE VI. German-American. Age 43. Pianist in music halls.

Eyesight very poor, willing to try basket-weaving as a curative measure, but not interested in craft work for its own sake. Thought he could not learn basketry or chair caning, after trying for some weeks, as he said he became confused when he looked at the work. (This was soon after the onset of his illness and he was depressed, and self-centered.) The teacher concluded he might be helped through interest in other invalids, and got him to play ball with child patients. He soon learned to use his hands and arms sufficiently to play ball with a soft, large rubber ball. After this he was taught to cut out pictures to make a scrap-book for child patients. He had difficulty in holding scissors at first, but finally succeeded, and learned also to cut accurately and to eventually manage pasting. As he regained the use of his hands, he wished to try to practice on the piano, and permission was obtained for him. He was

very slow in getting control of his fingers, but this may have been partly due to lack of confidence, as his depression was so extreme as to seem almost like melancholia. His attention was fixed on his own condition, and he was sure he would never be any better. During a gastric crisis he attempted suicide by trying to jump from a fourth floor window. However, these symptoms disappeared as he became able to play again, and to get about the streets. He never recovered his courage sufficiently to attempt to walk in the street, and goes about on a tricycle. He is able to fill some professional engagements, and if necessity forced him to depend entirely upon himself he could probably do so. It might be better for him if he had to support himself.

These six cases are selected from eighteen or twenty taught for the same length of time as showing average results. The choice of work was necessarily limited, for attempts at heavier work proved that it would be useless to try anything requiring much physical strength. Not one of these patients can as yet handle a hammer.

CASE VII. American. Age 52. Country merchant (small notion store).

This man kept at work until his illness was so severe that he was often confined to his bed. Some of his wealthy customers formed a committee to help him dispose of his property, which he did, investing the proceeds, a few hundred dollars, so the interest would help pay the bills of his two children in a semi-private "home." He was admitted to the county home on condition that he be allowed a pass to go out to peddle small wares through the country in the summer. After he had tried this two summers he was sent to the clinic with the suggestion that he learn chair caning to do in the winter, when he could not go out. His eyesight was not good, and he worked awkwardly, but anyway his inattention and lack of interest would have prevented his becoming proficient. He openly said that he had plenty of friends to help him, and that he did not care to bother to learn anything new. He could walk quite well, and tried to avoid going out wet days, so that the exercise seemed likely to be good for him, but the next summer he

lost many customers, perhaps because of the fact that he had begun to trade on his infirmities and try to arouse sympathy. He asked for food from farmers' wives, and ate irregularly. He also began to frequent country taverns and to drink, on the ground that walking tired him so much. His character, in fact, seemed to deteriorate, much to the surprise of the committee which had devised this plan of keeping him self-supporting. He finally became so intemperate that his "pass" to go out was revoked. During the ensuing winter he died of so-called heart failure.

There have been, however, a considerable number of patients with locomotor ataxia, who have been under treatment, and who have been able to earn a modest livelihood. One was a stenographer, who had to give up her position, and take an easier one with shorter hours. In spite of her complaint that her finger tips were numb, she has been able to do successful work for about three years. Another stenographer gave up her stenographic work to become an interpreter.

A re-toucher in a photographic studio gave up his special line to do more general work

in outdoor photography. The change of scene proved beneficial in keeping him from worrying, and the outdoor air and exercise also helped him.

Many more instances could be cited of persons who have been able to remain self-supporting, and of others who have become so after a period of illness, but it must be admitted that strength of character is required for a tabetic man or woman to keep the poise and self-confidence necessary to bear the pain and discouragement incidental to the illness, and at the same time work for a living.

Work is sometimes interrupted for days and even weeks by attacks of severe pain, and fits of depression. Gloomy weather often depresses tabetic patients, and the difficulties of locomotion seem to be greater at such times.

Usually the depression becomes less after a time, and the intervals of awkwardness less frequent as the patient gets better control of his hands, so that any teacher starting work with tabetic patients can honestly encourage them in the hope of years of usefulness, within moderate limits. The process of reëducation is a tiresomely long one, and the sticking to

routine is a severe trial to those in whom the work-habit has been lost, so that much responsibility at first devolves on the teacher.

Disseminated Sclerosis

There are several organic diseases of the central nervous system, in which the use of the hands is lost or impaired. As these are degenerative diseases, their progress may be but slightly stayed by any therapeutic occupation and it would be in many cases, an unkindness to encourage patients to look forward to doing remunerative craft work. Practice gives but little increase in skill, although occupation work frequently adds much to happiness. Special attention is given here to this class of patients, as these diseases are becoming more common (or more promptly recognized) and patients suffering from them are liable to appear before almost any occupation teacher. These comparatively unfamiliar diseases offer a new field for study and in many instances the possibility of new forms of gainful occupation. Few of them affect the mind, and mental resources may sometimes be cultivated in

many who could never become expert in applied art.

Among twenty patients taught, not one has done really good work, although most of them have been young men and women of intelligence, interested in their work. The effort to use the hands almost always caused so much tremor that good work could not be done. This "intention tremor" increased as an attempt was made to raise the hands high enough to do basketry or other hand work, and it did not yield to the control of the will, even when the habit of work was well established. Some patients were distressed and disheartened by it, others simply took it as a matter of course, and tried to work in spite of it. Defective eyesight also made work difficult, the principal complaint being of dimness of vision. Some patients said they could see nothing but objects directly in front of them. Some of these patients walked well, others with great difficulty, and some not at all at times. It is interesting to note that most of these were ordered occupation work by their physicians and that they took a normal interest in the

work, in spite of their comparatively poor success. One or two were depressed, others were inclined to fits of giggling which seemed to surprise and embarrass them. Speech was seldom under control, rhythmic inflections like scanning of poetry preventing natural expression.

Several persons have come under the writer's observation who were particularly interesting, and worth individual description.

CASE I. American. Age 30. School teacher.

This young lady had become suddenly ill six years before and spent most of her time in a wheel-chair. She hoped to be able to fit herself as a manual training teacher, and take a residential position as her peculiar speech prevented ordinary teaching. She made every effort to succeed in manual work, trying first basketry, then book-binding and then knitting. In basketry her greatest trouble seemed to be her sight, the reeds confusing her. Raffia basketry was even harder, as she could not pull the thread tight. Folding paper for book-binding troubled her, and she could not see to sew the sections together. Typewriting was

also unsuccessful. After several weeks her physician sent her home from the hospital.

CASE II. Italian girl. Age 20.

This girl had become ill gradually; she could walk (slowly), but could not stand long, and her speech was poor. These conditions prevented her doing shop or factory work, and as the family needed money, it was necessary for her to find something adapted to her peculiar limitations. After various trials it was found that she had good taste in color and could learn coarse embroidery. She does Bulgarian embroidery for a fancy goods store, and is greatly pleased with her work. At last reports her general health was about the same, after three years.

CASE III. American. Male. Age 28. Designer.

This young man was a designer of pottery and of advertising posters. He was ill for three years, during one year of which he was unable to walk or use his hands. He gradually recovered the power of locomotion, but his hands and eyesight are not quite the same. He earns his living at present as critic of the advertising work submitted to a large bus-

iness concern, and is thus able to make use of his art knowledge without depending on the use of his hands.

One woman who is the mother of a family is able to superintend her house, and another young woman unable to walk, does much of the family cooking. Men seem to be at more of a loss than women to adapt themselves to the peculiar conditions imposed by this disease. Those who can walk seem to get satisfaction from bodily exercises. One young man said running the printing press "limbered him up," another found carpentry helped him in muscular coördination.

Chair caning seemed a promising form of occupation work, as the frame afforded a guide for the hands. Both women and men patients succeeded in it. Basketry was not generally well done, although it seemed to arouse interest. Sewing was generally unsatisfactory, coarse knitting fairly good, but none of these occupations gave real control of the hands such as tabetics gain from hand work. Cement work might afford such patients a means of livelihood, where weaving, basketry, etc., would be too difficult.

Syringomyelia

Several patients with this disease were taught, all about alike in their inability to use the hands freely, the fingers being numb, stiff, and drawn up, and the thumb and forefinger sometimes unable to grasp anything.

CASE I. Austrian. Art student. Age 20.

This young man had been earning his living day times and studying art in night school for three years previous to his illness. He had become tired out and came to the hospital to find out what ailed him, as at times he could hardly walk. He grew worse, but still thought he must earn his living, and as his study of art had given him knowledge of designing, he found a firm for whom he could design monograms at home. His work at first was excellent, as he had good color sense, and originality, but he worked very slowly, and with great effort. After a few weeks he became unable to "feel the paint brush" as he expressed it, and his fingers began to curl in. His right hand only was affected, and he might have in time learned to work with his left hand, but his general health began to

grow worse, and he went to a home for incurables.

Chronic Myelitis

Among several patients taught, one shows what can be accomplished with work exactly graded to the ability of the individual with this disease.

An Italian about 25, gifted with a keen sense of color and good taste, felt it necessary to keep on working. He had very little physical strength and could not do any heavy work, but finally learned to make delicate little baskets to hold bonbons, or nuts, which a fruiterer was glad to buy. His problem seems to have been solved satisfactorily as he is happy, able to put his talents to use through his artistic ability, and earn a modest livelihood, without any danger of bodily or mental exhaustion.

Poliomyelitis

This disease has become so common among children that it is not necessary to report individual cases, the methods used in treatment being well known. Generally speaking, man-

ual work given should be such as to bring the whole body into a normal activity, with some special work in case the physician orders it, for the parts most affected. Carpentry work, chair caning, basketry, and weaving are interesting to children, and require the use of both hands. If carpentry and weaving are well taught, so that the child holds himself in a good position while at work, they are excellent exercises for the whole body. Children in bed frequently work in awkward and strained positions, and care should be exercised by the teacher to give very light work at first, and get the child into the habit of working in a natural position. Cutting out pictures may precede any real manual work. Spool knitting is interesting to very small children. Making braided or chain stitch horse reins of coarse cord is good work also. Adults taught were most interesting; one was able to get considerable physical benefit from doing heavy basketry, although she sat in a wheel-chair. Making scrap baskets gave good exercise to the whole upper part of the body. She also did coarse knitting, her physician having ordered that she do as heavy

work as was convenient in her cramped position. Another patient who was able to walk, ran the printing press two hours a day, printing several hundred treatment cards.

Paralysis Caused by Accidents

Among the most interesting patients taught were some who had become crippled by accident so as to lose the use of the lower part of the body.

CASE I. American. Colored woman. Age 40. Cook.

This woman fell on the ice and injured her spine. After being unable to walk for eighteen months, she could not stand any length of time. This of course prevented her resuming her ordinary work. She could not learn to become a good sewer, and the teacher finally decided to try her on very light laundry work, which can be done sitting (doing up lace, lingerie, waists, fine underwear, etc.). A domestic science teacher gave her six lessons, after which she returned to her home in the South and is earning a good living at this work.

CASE II. Bohemian. Age 30. Hod-carrier.

This man was very ignorant, and after his accident (a fall from a building) he lay for a long time in a kind of stupor, as no one in the hospital could speak his language, and he was too discouraged to try to rouse himself; he was finally put in a wheel chair and found he could sit up. He was given the opportunity to learn chair-caning. He at once became enthusiastic, and evinced a dexterity quite remarkable in one who had never done any skilled work before. He has now taken up the making of reed tea trays, and is rapidly becoming expert. He could probably earn more now, after one year's training, than he ever earned when he had his full bodily strength.

CASE III. Irishman. Age 25. Hostler.

This man injured his spine by a fall from a horse. He sat in a wheel chair. He was liable to be deported, and work had to be chosen which he could do in Ireland, if he went back to a small village. A cobbling teacher was engaged for him and it was found

that he could learn to put on patches, and mend soles, but not to make new shoes, as he could not bear so much pressure on his knees.

Caisson Disease

CASE IV.

Two most interesting cases of this form of paralysis were taught.

The first one was a worker in the Hudson Tunnels, who had been crippled for two years. The occupation work given at first was of the lightest order, and he used his hands awkwardly. His strength gradually became greater, until he ended his work cure by painting the walls of a room, part of the time standing on a ladder.

The second was also a tunnel worker, who was brought as an emergency case to the hospital. As soon as he was able to use his hands, he asked for work, and began basketry before he could walk at all well. He seemed to derive much benefit from weaving rag rugs on a very heavy loom. Both these men expressed particular satisfaction in doing heavy work requiring the use of all parts of the body.

The second is now on night duty in a hospital ward where he has to do much lifting of patients, and continues to improve.

V

Hysteria

Among the diseases which seem to derange the whole system, altering character, at least temporarily, and interfering with the activities of the body, hysteria has a place all its own. How much occupation can do to help an individual so afflicted is still an open question. In most of the cases here recorded, occupational treatment has been kept up for several months. Results have been comparatively poor and difficult to obtain. It is probable, however, that the patient can by systematic work and keeping the attention centered on immediate ends to be accomplished day-by-day, partially control the manifestations of the disease. Whether such "assuming a virtue if you have it not" can bring about a final cure is doubtful. Work certainly holds the patient to a purpose, and it would appear that it might ward off violent attacks, as in the

present series a hysterical patient has never had an attack further than a fit of trembling which usually stopped as soon as the attention was again centered on the work. Paralysis of the hands sometimes hindered work, and sometimes the patient unconsciously used a hand while working, which seemed to be helpless at other times. Curiously enough, the workmanship of every hysterical patient was of a high order, in spite of apparent paralysis, rigidity, etc. Neatness and exactness seemed to be a matter of pride, even where the patient would admit no interest in the work. There was almost always also considerable artistic ability, the general standard being high. It might be supposed that such clever workers would be easy to teach; on the contrary, they were very difficult, as most of them accomplished nothing in group work. This seemed due to the proximity of others, rather than the need of individual teaching, as the same patients could work well alone in a room. As a rule they were but little interested in the work of other patients unless the interest was rather forced upon them.

Individual teaching, however, was satisfac-

tory, after the patients had become used to the condition; at first they seemed often puzzled by their own lack of interest, and difficulty of concentration. It may be observed that the method used was a simple appeal to the sense of sight and touch in making work that looked attractive and useful, and was pleasant to work on. The amount of work was increased gradually, also the degree of intricacy and originality, but it was never necessary to begin with *childish* work. After a short time the patients found no difficulty in doing fine embroidery, tatting and other intricate work, and seldom complained of fatigue. They were often difficult to manage, capricious, and sometimes irritable. Wherever possible the hysterical patients were given large work, requiring use of all parts of the body, but this was usually beyond their ability at first. When it became possible, large heavy work, like weaving or carpentry, seemed especially beneficial in holding the attention, giving good muscular coördinations and affording an outlet for the constructive imagination.

Group work was beneficial when the patient

had got to the point of a normal interest in other people.

A few cases are reported to show individual peculiarities.

CASE I. American woman. Age 30.

Had been an invalid for eight or nine years and during all that time had thought she could not walk. Was under treatment by a physician who succeeded after eighteen months in relieving her. Her occupation work was at first entirely individual in her room, was much interrupted by fits of trembling, talk about her inability to work, etc. It took a whole winter to make one sewed basket and one embroidered waist, both exquisitely done, after which she seemed to have a sudden releasing of energy and worked willingly and efficiently, and enjoyed group work. After her return home she not only applied all she had learned in her own work, but also made use of much knowledge she had picked up by watching other patients, and is constantly occupied in doing really beautiful craft work.

CASE II. American woman. Age 40. Pianist.

This lady had a sudden attack which seemed like a stroke of paralysis, after which she could scarcely walk, and could not use the left hand. She soon began to gain except in the dragging of one foot but was still unable to use her paralyzed hand, which caused her much anxiety as she had to earn her living as a pianist. She tried to use the typewriter with her left hand but was unable to strike the keys with sufficient force to make any impression unless she was alone in the room, and even then could not control the individual fingers. At times her fingers worked fairly well for a few minutes. This patient was not interested in manual work, and the teacher thought it would be better for her to devote her time to piano practice. She seemed suggestible and her physician and the teacher kept before her attention the thought that the use of her hand depended on her own efforts. As soon as she fixed her attention on this one thing, she began to practice on the piano steadily, three or four hours a day, a half hour at a time; concentrating her attention on one thing seemed to help her, as she not only slowly regained the use of her

hand, but her inability to walk seemed to leave of itself. She seemed to forget all about it. At last reports she was able to resume her work.

CASE III. American woman. Age 25.

This young lady had mastoiditis when she was twenty, and afterwards became a semi-invalid; at one time thought she had flat-foot and could hardly walk. About two years ago she decided she could not do her hair up as her scalp was sensitive. This prevented her going into society, and she became a kind of recluse, living mostly in her bedroom. She took up basketry at home, and worked with great success as far as technique was concerned, but her capriciousness made her a difficult pupil. Some days she complained of dimness of vision, and acted as if she could hardly see, until she became interested, when she worked splendidly. She ruled her own affairs entirely, as her family had given up trying to control her. She would have no physician, and, in fact, looked well to the casual observer, so that her people did not urge her to put herself under medical care. She was very unhappy, and it seemed pitiful that

the best years of her life should be wasted, so she was urged to go to a neurologist, who put her in the hospital. Singularly enough, she evinced the same trait shown by other hysteria patients of being unable to do group work, although she had been so successful in basketry at home. However, she took up knitting in her room, and took some interest in it. Her physician estimated that her recovery would take at least eighteen months longer, the first few of which are being spent in a sanatorium, in the country where she leads an active outdoor life.

CASE IV. Italian-American. Male. Age 12. School-boy.

This boy was in the hospital first for chorea, and was isolated for a few weeks. He was ordered occupation work as soon as the twitchings allowed, and became at once enthusiastic, doing excellent basketry and chair-caning, and evincing intelligent interest in the work of others. He went home cured. A year later he returned to the hospital, and the teacher naturally expected him to resume his former interest, but far from it. His nature was altered, he worked only when urged to

and then ungraciously, paying no attention to what others were doing. This time he made only a brief visit to the hospital, as his parents were instructed how to care for him, but he illustrates the altering of character which may occur in hysteria even in a child.

CASE V. Irish-American. Female. Age 11. School-girl.

This child-patient was depressed and seemed to feel it a reproach that she could not use her right hand. She had an unhappy life in an orphan asylum. Cheerful surroundings, and constant encouragement to use her hand in exercise, and manual work, and her success in basketry, helped her much. She went home cured.

VI

Epilepsy

Occupation work for epileptics must be planned so as to avoid fatigue from over-exertion which might bring on an attack, and so as to avert any danger of injury from falling on sharp tools or getting caught in machinery during a seizure. This might seem to limit the work, but much remains which can be attempted without risk and there is no class of patients more benefited by occupation than epileptics. There is nothing in their illness to prevent enjoyment in work, and the satisfaction in accomplishment which comes from technical skill. Without great originality, as a rule, they nearly always show persistency and the desire to excel, so that their work is generally substantial.

The actual teaching of epileptics is marked by great differences among the various patients. Out of fifty or more taught, a few ap-

peared dull mentally; others were lethargic and lacking in interest because they were so disheartened at finding themselves the victims of a disease which they believed would cut them off from all social activity and success in life; others spent their time in looking forward with dread to attacks; others were perfectly cheerful, with a normal attitude toward life. It was difficult, on account of the self-evident nature of their malady to avoid some talk about it. It was, therefore, possible for the teacher to reassure the disheartened often with reports of successful work done by individuals and in epileptic colonies and to try to convince them that the quality of their work and their attitude toward life were under their own control and need not be affected by their illness. Turning the attention toward readjustment often seemed to produce a change in the patient and a salutary effect in causing him to plan for the future instead of brooding over his misfortunes. Children were naturally less affected in spirit than adults by the disease, as they seldom knew what it was that caused their unconsciousness, but they were often subject to

spells of dullness or irritability before an attack, which prevented work. It seemed better when such a condition manifested itself, to let the child rest, as work had no effect in changing the course of events.

One characteristic stood out markedly in most of the patients taught, a peculiar degree of absorption in what they were doing, so that once started they did not easily turn their attention to anything else. This persistency was marked even in young children, amounting almost to stubbornness.

Many of these children showed poor memory for mental work, but excellent memory for handwork. What was demonstrated by the teacher's own hands generally remained fresh in the child's mind and he usually found great satisfaction in applying this knowledge. In some cases the special senses seemed to give feeble sensations and ignorance, appearing almost like feeble-mindedness, was not uncommon, even where the will-power seemed to be good. Other children were really feeble-minded.

Manual work is an important part of the training of the epileptic child, not only on ac-

count of the opening up of the avenues of the special senses, thus allowing freer expression of activity, but for social reasons as well. The possibility of his life being somewhat isolated, if he lives at home, and the trend toward the choice of some simple manual work as a means of livelihood in later years, must be considered. It would doubtless be impossible for the State to provide a home and training for every epileptic, no matter how desirable segregation might be. Aside from this, there are city dwellers who would like, if possible, to keep their epileptic children with them, and would gladly try to follow directions as to diet, regular hours, etc. Education, however, is a question which must generally be settled outside the home, for some children well cared for physically grow up in deplorable ignorance, their parents being unfit to teach them. They are often unable to fit into the ungraded classes of the public schools, as there is no one to take them to and from school. Idleness certainly breeds degeneracy in such cases. Many parents of epileptic children taught by the writer have complained of their children's impudence,

sulkiness, bad temper, etc., yet these very boys and girls worked happily for several hours a day in the hospital workshop, never showing these defects, except just before or after an attack. One little girl of nine had such a report from her mother; she was extremely ignorant and it was evident that no effort had been made to teach her. She was anxious to learn and although backward, with no more knowledge than she should have had at five years, she at once began to catch up mentally. Her mother was given careful directions as to how to teach her, and her visit to the hospital, while it ended in the confirmation of the mother's fears in regard to the nature of the child's illness, brought much help to both.

Among those simple industries suitable to be taught to epileptic children, reed basketry, chair caning and coarse knitting on wooden needles are safe; sewing and raffia basketry are proscribed for those liable to frequent attacks. Running the printing press or any other machine is not safe, but weaving is entirely satisfactory. It may be recalled that Silas Marner earned his living as a weaver,

in spite of his strange attacks of unconsciousness. This refers, of course, to the old fashioned weaving by hand and foot power. Machine weaving on a power loom would be proscribed.

All these industries are mentioned as educational occupation work. Gainful work might in some cases grow out of them, and there are many other forms of work equally suitable. Farming is perhaps the most satisfactory, as it is healthful, interesting and remunerative and can be carried on even if a mental degeneration sets in as it sometimes does. Colonies like the Craig Colony have demonstrated the suitability of agricultural work both in keeping the patients in good general health and in keeping them happy and efficient.

Chorea

Children with beginning chorea are usually so ill as to be unable to do any work for a few weeks, and are frequently ordered rest in bed and isolation. Later, when the choreic twitchings begin to be less marked, these patients can begin work, but it must be very

light, at first, and planned so as to give the maximum amount of simple pleasure with the minimum amount of fatigue. Work seems to help the patient by putting him temporarily in a condition of normal interest in something outside of his own illness, although, as a rule, these children seem indifferent to work and to what is going on around them. They seldom attempt to express their feelings in words, and are credited with being dull and sulky. A close observer realizes how really ill they are. Most children, after a while, meet the teacher half way when occupation is suggested. They require tact and patience in handling, however, and the teacher must try to regard the dullness as a phase of the disease, not as a trait of character. As such children often remain lacking in spontaneity for some time, it is better to set them to work as soon as the spasmodic movements have subsided sufficiently, unless, as is sometimes the case, an attempt at voluntary movement causes the twitching to increase greatly.

Each choreic child or youth is a separate problem; out of more than fifty taught, each one showed individual traits, but there were a

few marked groups. Some patients were able to get a fair voluntary control of the hands while still quite ill, and to force themselves to write, and also to do good manual work. Others whose general condition was good still had uncontrollable muscular movements which prevented accurate work. Others seemed nervously exhausted and could hardly work at all, mental and physical energies alike being at a very low ebb. Generally speaking, they were not good workers, and only in exceptional cases were they able to do well technically, but just as neurasthenics have to be trained to work by slow degrees, these children had to be taught step-by-step. The purposeless movements discouraged them and it took a distinct effort to rouse the attention sufficiently to get any attempt at working; this effort had to be repeated every day, as the interest did not seem to carry from one day to another; it seemed as if the child sunk again into self-absorption between lessons and forgot his work. However, these children may have learned much more than was apparent, and may have stored up knowledge which would help them later. On visits to the phy-

sicians in the dispensary after they were better, some of these patients asked to see the teacher, and told her of braided raffia work, etc., which they had done at home, by remembering work done at the hospital. One little girl of eleven, who was too ill to be ordered regular work, happened to have a chance one day to sort over some large bright-colored beads, suitable work for a child of five or six. Her hands twitched, and she looked ill and unhappy, and the teacher was surprised on the child's return about six months later to have the little girl tell her how much she had enjoyed sorting those beads. At the time of this visit, which was in order to allow the physician to judge of the child's progress, she was able to do simple basketry, but still seemed behind other children of her age, not only in manual work, but in mentality.

The question of what is suitable occupation work for a child with chorea requires consideration. It must be simpler than would ordinarily be given a normal child of the same age, as is true in all occupations for children whose physical disability enters into the possibilities of success. Mental dullness and lack of mem-

ory are also factors to be reckoned with. In most patients work suitable to the child's age did not rouse any keener interest than that much simpler. But the work chosen should be worth doing, no matter if it is simple enough to be suited to a kindergarten child. Work with color seemed to arouse the attention, and painting (as the use of a brush is easier than holding a pencil or scissors) seemed very good for the first step. Free-hand drawing of outlines was generally impossible, and the use of well-designed cards, printed in outline to be filled in, proved a satisfactory way to get around this difficulty, and to give specially good training in muscular control. These cards come printed on rough paper, in designs of flowers, fruits, and of Easter and Christmas subjects. Some originality is allowed in the choice of color in filling in.

CASE I.

A girl of 11, who could not even braid raffia, constantly compared her present unsuccessful work with what she had been able to do and was discouraged by her lack of success, found that she could do effective work with

these cards, and at once began to gain self-confidence. Later she cut out pictures and made a scrap-book, and eventually was able to do raffia work. The scrap-books she made gave pleasure to many other children who were unable to work at all, but were well enough to be interested.

CASE II.

A boy of 11 recovered the use of his hands slowly and was forbidden to work, but he knew all that was going on in the workshop, and watching others seemed to rouse him out of his own bad feelings. Every day he asked his physician to be allowed to work, but when at last he got consent, he found to his discouragement that he still made involuntary movements. At first he could work only at something that could be fastened in position, and did fret-sawing, in which the work was held securely, and the tool alone required manipulation. He sawed out many little animals for smaller children who were also patients. This boy was at first dull and easily discouraged; after each failure he would go off by himself and sulk, but the teacher took pains to show him exactly how to use his hands, and he

gradually became quite expert in fret-sawing. Later he took up chair-caning, which he did fairly well. Training in the use of the hands bore unexpectedly good fruit in this case, and the careful teaching exactly how to handle materials and tools, and insisting on the child imitating the teacher's movements, proved excellent discipline. It aroused the boy's intelligence and he coöperated well. His sense of touch and sight were both dull. This, with the corresponding lack of motor control, formed such a double burden that no wonder the boy seemed dull under such physical limitations. His mental ability, however, seemed to be good, and at last reports he had nearly caught up with others of his age. The teacher learned much from her observation of this case, and afterwards tried to simplify the work given to choreic children, and confine it to work which makes a vigorous appeal to the color sense and to touch, and the muscular sense, keeping also to work so easy as to be done successfully, minimizing the limitations of illness, instead of emphasizing them.

One other type of choreic patient worthy of special attention is the over-ambitious child

said to be broken down by overwork. Such children are not dulled by the disease to any great extent, and their interests remain normal. After the spasmodic twitchings moderate they can work for short lessons at ordinary manual work. If kept at too childish work they become depressed and lose their self-confidence and it is well to plan work interesting enough to keep up their spontaneous attention.

A little girl of nine, who was very small for her age, had been attending music classes and sewing school, besides public school and was quite expert in embroidery. On coming to the hospital her physician ordered her to rest in the open air, but her interest in the work adult patients were doing induced her to beg her doctor to allow her to work at the same thing, chiefly heavy reed basketry. A compromise was made by which she was to work a certain length of time on condition she rested the remaining time. She kept her end of the bargain conscientiously, and while she used much lighter materials than her adult fellow-workers, she made the same kind of baskets. She was slow in working and probably below her

normal level at quickness of thought and in the control of her hands. This child had never wanted to play; her great aims in life were learning and doing. The necessity of a time for rest and play was explained to her, as it seemed she was more to be depended on than her mother for her future program, and she promised to carry out any suggestions that would help her to catch up in size with others of her age and make her grow into a strong woman. Many others of these children seemed sensible and willing to learn, in spite of their seeming dullness and retardation. Most of them had always been rather delicate and seemed liable to remain fragile. It seems, therefore, that the habit of systematic industry, and the satisfaction in doing skillful hand work are particularly worth cultivating in them, as aids in giving stability to an organization liable to remain nervously unstable.

VII

Mental Diseases

Work may be made the connecting link for the mentally afflicted, between the normal world of working men and women and that other world in which the inmates are isolated by abnormality in ideas and acts. The instinct of workmanship frequently remains after reason is permanently overthrown. Many times those whose idle hours are most wretched on account of distressing delusions become self-forgetful when at work, and reach a physical and mental altitude far higher than would be expected. Nearly all classes of insane people can work, except those in the advanced stage of general paresis, and those in certain temporary states of extreme depression or exaltation.

Manic Depressive Insanity

There has been considerable difference of opinion as to whether patients in an excited

state should be urged to work. No absolute rule can be laid down, but the general opinion among modern alienists is in favor of work as a remedy even in considerably excited cases. Hydrotherapy is of unquestioned value, but work should follow the calming measures as soon as possible. The patient who puts his excess nervous energy into work is far less likely to need restraint or sedatives.

In teaching manic patients in a state of exaltation a careful distinction should be drawn between occupation which is intended to hold the attention and real creative work. An excited patient restlessly moving about, and unable to "think straight," could hardly be expected to concentrate the attention and sit still an hour or so planning out and executing basket designs. But the aimless psychomotor activity which prompts the tearing up of paper into bits might be directed to tearing strips of cloth for weaving, or bits of paper to fill a pillow cover. Winding yarn, or winding carpet rags on a reel, or, in fact, any simple work which allows free play of some part of the body frequently holds the attention, especially if the work is with bright-colored ma-

terials. Work that can be done standing seems often satisfactory to the patient, and if he wishes to walk about occasionally, it is often a relief to do so. The teacher must keep in mind that the restlessness which is a characteristic of the state must find some vent. Frequently the patient in such a state is observing keenly everything that is going on, and is afterward able to make use of knowledge gained from watching others. An incident to illustrate this is the case of a young girl who was too excited to leave her room and was, in fact, under the constant care of a nurse, who happened to be making a basket. The patient, talking much of the time to imaginary companions, was apparently oblivious to the nurse. But afterward, when she became able to work, she displayed a surprising knowledge of basketry. This same patient was sent to a country home where she had an opportunity to weave. She seemed to like the freedom of motion, and the bright colors employed, but her attention was diverted by the conversation of imaginary companions, to whom she must address remarks, friendly or unfriendly, in an excited manner. It was

useless to try to convince her that there was no one present but herself and the teacher, and the latter tried the expedient of getting her attention back on her work by holding up the shuttle, or a bit of bright material for weaving. She soon became able to talk to the teacher intelligently about her work and planned and made two rugs. It seemed that the novelty of doing something unfamiliar was a wholesome stimulus in this particular case. She was large and naturally muscular, and took pleasure in the use of her strength. Weaving seemed to be just the thing for her.

Another type of manic excitement is represented by a Jewish woman of about fifty. She would sit humped up for a few minutes and then get up and walk around excitedly. She did this at least a dozen times during a short interview. When the teacher asked her if she would like to complete a basket begun by another patient who was just leaving, she expressed pleasure, went to work at once, and did not get up again for over an hour, although she had to be occasionally encouraged. Her expression, at first quite wild, became softened to one of intentness in her work, and

she smiled at the teacher and thanked her for giving her something to do, as she said she liked to work, and had five children at home, where her hands were never idle. She showed no particular originality, but her work was strong, and in the course of two or three days she had a very satisfactory basket, at least it was very satisfactory to her. In this woman the liking for work remained in the midst of confusion in regard to other things. There are other cases with whom work seems to be almost an impossibility, unless the instructor has the time to give much individual help, but if the patient is under the charge of a nurse who is interested in occupation work, and co-operates with the teacher, the effort to arouse interest in work is usually successful. The adaptability of the nurse has much to do with the success of the effort, because if the nurse tries to make the patient sit still and work steadily she generally fails, while if she allows her to get up and walk around, and then again presents the work, perhaps pointing out some new feature, the patient starts in again. For the patient in a highly excited state the only chance of success lies in individual teaching.

MAKING IRON FRAMED CANVAS LAUNDRY BAGS. BOSTON STATE HOSPITAL.
These men are insane—note the interest and intelligence of their faces.

After the preliminary stage is past these patients often enjoy group work; in fact, they seem to take particular pleasure in working with others. They then may take up finer work.

In general, patients in this state are easily distractible, and even when they are sufficiently improved to plan original work, they need variety. Their physical uneasiness usually persists after their general state is improved, and they frequently appear worse off mentally than they really are. This bad habit of physical restlessness may frequently be corrected by occupation work, since it substitutes useful movements for idle walking, restless moving of the hands, etc.

The choice of work should be careful, and what is given the patients in an extreme condition of excitement should be such as to pave the way for more advanced work. Whether it is familiar or not must rest on the patient's temperament. Sometimes familiar work exaggerates the excitement, and something entirely new arouses wholesome interest. In other cases familiar work is most satisfying unless it is something connected with the be-

ginning of the patient's malady. The work must restore the self-confidence of the patient. If it fails to do this something else must be tried. It, therefore, behooves the teacher to invoke the physician's aid in finding out the past likings and abilities of the patient.

There is generally a chance for the patient to progress, and do fine original work. The foundations laid during the excited state must therefore be secure. The great danger is in overstimulating the patients, as they are liable to become too eager, and to overestimate their physical strength. In restoring their self-confidence care must be taken not to overdo it, and recreation must constantly be used in connection with the work.

Patients suffering from manic depression are often at a very low ebb, physically and mentally, and whatever work is given should be restful, planned to prevent the deterioration of absolute idleness, rather than the stimulation of trying new work. It must, however, be something useful, or the patient will be likely to grow stubborn, and refuse to do anything. Such patients are frequently distrustful and working at anything which

seems to them useless makes them feel that they are being made fools of. They often feel that their friends were wrong in making them stop work, and to offer them diversional occupation is adding insult to injury. In dealing with such patients the teacher must remember that she is dealing with a temporary condition, in individuals who will in all probability recover, and however simple the work she offers them it need not be such as could legitimately be given to those who are bound to become less and less efficient. Outdoor work is often very helpful to such patients, if it is not too tiring physically. It is almost impossible to keep the attention on intricate work, and whatever tends to peace of mind is beneficial. Sometimes group work is helpful, and sometimes it seems to make the patient more depressed in realizing his own inefficiency, so that it is hard to make a general rule, further than that there should be an opportunity given the patient to get through a trying period without undue stimulation, and yet keep him occupied sufficiently to prevent an undue amount of leisure time for gloomy thoughts. "Keep constantly occupied" is a

direction frequently sent by the physician to the teacher in regard to such cases, but it is generally accompanied by a warning to avoid complex or fatiguing work.

Mixed State

Many patients show both excitement and depression at frequent intervals. Most of these work better than those suffering from depression. One such case was that of a young Irishwoman, whose chief symptom was confusion. She was unable to distinguish individuals whom she saw every day, and sometimes was unable to recognize members of her own family. She had days of extreme depression when she refused to speak, or try to rouse herself, but on her better days she got satisfaction from running a small printing press. She was entirely unable to do even the simplest basketry without constant supervision, as she forgot which thread to weave with, but she printed hundreds of cards without difficulty, and took pride in her work. Later her days of depression became less frequent, and she was able to sew. Some months later she had another attack, and returned to the

hospital. She had forgotten the teacher and attendants, but curiously enough remembered the printing press, and wanted to print.

Dementia Præcox

Dementia præcox so often stops the development of the mental faculties that work must be chosen which will not demand any great degree of originality, or future creative ability. Most sufferers from this disease, however, are able to do accurate work, and take pleasure in it, and as they are often young at the onset they may be able to gain mechanical skill which will make good workmanship a habit. Good work in itself prevents deterioration, as it covers up the marked failing in efficiency which is characteristic. Simple industries like chair caning, plain weaving, basketry, are suitable crafts.

There are, however, difficulties in the way of the teacher who would get good work from this class of patients. One is the frequent occurrence of a catatonic, or apathetic state, from which the patient can hardly be roused to eat, to say nothing of working. This state sometimes lasts for weeks, and the patient

may seem almost in a stupor, hardly conscious of his surroundings. It is sometimes a question whether it is not as well to let the patient rest altogether. But a surprising amount of construction work can be accomplished even in this state. It is useless to try difficult work in many cases, and the teacher's effort to make the patient think may awaken stubbornness. Coarse knitting is so familiar that the movements used require little thought; raffia work, or anything else well known, may do much to rouse the patient's interest.

In the excited states these patients like to spend hours talking over their grievances, explaining away their failures, and sometimes talking about their strange beliefs. It is hard at first to get them to express themselves in acts, as often they seem to feel that their moralizing and going over and over the same ground in words is valuable, and work would be a waste of time. The teacher has to use a good deal of tact to get them working, and needs to have much time for each individual. There is undoubtedly much good material going to waste among this class of patients. Self-directed, they generally think they can

accomplish wonders, and really accomplish next to nothing. The teacher who can direct their activities into possible lines of achievement is doing a really great work. This applies especially to those who are not obliged to be placed permanently in institutions. In the modern state hospitals where careful attention is given to every type of mental disease, many of this class are doing excellent work, but there are many outside, who seem more "queer" than actually insane, who fail from year to year in efficiency, who could be helped by good advice and good industrial teaching.

In the actual teaching of more than a hundred cases of this disease the writer found a marked indifference to the work of others to be characteristic; they never compared their work with that of others, or even with the samples in the workroom, unless asked to do so. Their work improved steadily, and usually showed good color and design, and a sense of proportion, but was without originality. It afforded satisfaction to the workers, who spent many hours a day pleasantly occupied. Most of these patients seemed to the teacher capable

of real success in simple handicraft work, not only on account of their willingness, after they were fairly started, but because they were able to do solid, strong work.

Many interesting patients were among this group. One man, who had been a typesetter in his youth, had dropped down to be a day laborer. His hands were hardened with coarse work, and it took him some time to learn again to handle type. He did not become very expert, but he reassured himself that he had not lost all his manual skill, and this appeared to give him much satisfaction. It seemed that he had ability to be more than a laborer, but not the ability to get into a better paid and higher grade of work, unless helped by some one, and this help he had evidently lacked.

One girl who had been a milliner came to the Neurological Institute very ill physically and mentally. For nearly two months she worked in the occupation room without volunteering a single remark, and seldom answering if addressed. Yet during that time she did much neat work, making towels, winding bandages, sewing raffia napkin-rings and

baskets. In all this work she seemed to show no interest, but at last she noticed a doll's hat that some one else was making. She made and trimmed one herself and began to appear slightly less inert. Materials were given her to make herself a spring hat, which she did very neatly, copying the trimming from a fashion book. Soon after this she went home. After she had been away three or four months she returned. She disclaimed all recollection of making herself a hat, but at once took up millinery where she had left off, trimming a doll's hat as soon as the materials were set before her.

Most of these patients who were able to work successfully expressed no mental disturbance in words or actions while engaged in their work, but at times nearly all of them appeared to be in a reverie and it was hard to get them started working.

VIII

Border-line Cases

Mental idiosyncrasies such as incessant worry, depression, fear, etc., often become so marked as to render their victims unfit for business or family life. As far as the teacher's attitude is concerned, it makes little difference whether these are delusions or only foolish worries. They alike arrive at the result of causing their unfortunate possessors to appear "queer" and to expose them frequently to endless and useless argument from their friends and relatives, who think they can talk them out of their "strange notions." Frequently they are put under the care of the neurologist, to give him the opportunity to observe and to ascertain whether the symptoms are based on "nervousness" or indicate incipient insanity. Formerly such afflicted individuals frequently were committed to insane asylums, and we have great reason to be

thankful that with more extended knowledge and more humane methods, recoveries can often be made without this final step. These so-called border-line cases are particularly interesting to occupation teachers, as they are often benefited surprisingly by work. While they might be unable to pursue their regular callings they are usually able to do ordinary craft work, with an immediate result in restoring their self-confidence and drawing their attention from their distressing thoughts.

In many cases, the attitude toward work remains normal and the natural liking for activity thus finding vent, gives a marked renewal of energy. Sometimes interest in work precedes ability, and the process of getting started at really valuable work is a slow one, but there are very few who cannot eventually do good work.

Women accustomed to needlework frequently find the same relief in doing something familiar, but generally are unable to plan new work without help. On the other hand, some dressmakers find anything connected with their avocation disturbing, and need something entirely novel.

Many of these patients seem to benefit much more by work requiring considerable physical energy than by sedentary occupation; others find pleasure in doing intricate work demanding close attention, such as the making of raffia hats, bags and lamp shades, made in Solomon's knots. It is not always necessary to begin with simple work; quite often something intricate seems to be beneficial in rousing the patient to show his ability.

Where a patient shows a liking for any particular thing, this work will generally prove to be of benefit, and in general it may be said that if the work gives pleasure, and is in accord with the ideas and capabilities, so that it stimulates effort, it is well chosen.

The ability to work in groups is frequently lost in these patients, and it is well for the teacher to try to get them gradually accustomed to working with others, so as to avoid the danger of absorption in depressing thoughts. Also, most working people, even housewives, have to work with others about them, and it is well for the patients on recovery to have the habit of being with other people at work. It is not necessary to consider

reëducation in new means of livelihood, as many such cases are able to resume their ordinary work; occupation work while they are ill is a curative measure. These remarks, however, apply only to those who are regaining their normal condition; those whose malady is progressive must be taught according to the nature of their disability.

IX

Work with the Aged

The "Good old age released from care" of which the poet sings may be so care-free as to be exceedingly dull and monotonous. No one likes to be considered past his usefulness, and, as a matter of fact, most old people are "laid on the shelf" in America long before their working days should be over. For him who loves to read, a period for adding to knowledge which can be interpreted through the experience of a long life, may be a most happy time, but for the more common type, getting pleasure from activity rather than from contemplation, old age offers few resources. The initiative for seeking new fields is a thing of the past, and help must come from without.

What can be a more pathetic spectacle than that of rows and rows of aimless old men and women, sitting in the wards of an almshouse, dull and apathetic, with no thought beyond the

next meal? Truly enough Cicero said that "To one oppressed with poverty, however otherwise qualified, old age can never prove easy." It makes very little difference how far poverty in old age may be due to self-indulgence, to lack of forethought, or to inability to control circumstances, the fact remains that all these faults may have come from a lack of physical and mental equipment at the outset, or from lack of proper training. Judgment should not be passed too hastily. We are prone to assume that a poverty-stricken old age, as a ward of the State, must be a just desert. A careful study of the groups in any almshouse affords a surprising number not much past middle life, weak, inefficient faces, of those who have never been able to make good in our complex social system.

This is not the place to go into the study of heredity, to trace out the decadence of a family from generation to generation till pauperism is the last step reached, nor is it fitting here to take up the question of the ravages of alcohol. The immediate problem to be considered is what can be done with the thousands now "prisoners," actually if not nominally, in the

"city homes" and in poor-houses all over this country. The beginning already made has been surprisingly successful. In nearly every institution where work has been introduced vitality has seemed to rise higher, not only in those able to work, but also in those able only to watch. Life has more interest, and there is something to which to look forward. Craft work is a pleasant change from the routine of housework, and "doing chores." The work itself may be planned so as to be of no mean economic value. For instance, braided rag rugs, made from their discarded clothing, provides nearly seventy men with work in the Brooklyn "City Home." These rugs are good in color, and well made, and of immediate use all over the building. Baskets for various uses in the home are also made. Where money is not given to the workers, it may be hard to keep up the enthusiasm, but if the work is so eminently practical as in this case, the desire to see the work used adds to the interest.

Both women and men like basketry. Knitting, crocheting, and sewing are of course

IN THE WARDS OF THE LINCOLN HOSPITAL AND HOME, NEW YORK CITY.

Quite often it is possible to carry on light work in the hospital wards and without heavy equipment.

especially the province of the former. Netting hammocks is another ancient industry which men enjoy, and there is almost always some old sailor who knows how to put in the rings and side cords in a truly "ship-shape" way, which will interest every one. Sometimes the products of one place can be traded for those of another; for example, hammocks might be exchanged for rope door mats, or for braided rugs. The industries mentioned may be considered typical. Weaving is also suitable, but provides occupation for only one or two at a time. Chair caning is always useful.

Undoubtedly the earning of money is a stimulus to the interest, but as in some cases the will-power is so destroyed by the indulgence in alcohol or drugs, that it is dangerous to allow the worker money; a rule is often made that the payment must be made in some other way, extra tobacco, food or clothing, or a treat of some kind. This may be used as a step toward payment in money.

A most wholesome stimulus is well-earned praise. Variety is necessary to keep up the interest. Little opportunity should be al-

lowed for depressing introspection or retrospection, and if the work is changed in form if not in kind the attention is held.

Work should be given tactfully so as to keep the worker from feeling his helplessness. No one likes to be reminded that he is growing decrepit, and it is just as easy for the teacher to leave the pupil at the end of a lesson with a sense of well being, as it is to leave him brooding over his infirmities. Pride should be aroused. Often pride in work leads to pride in personal appearance.

Teachers are at first often confused by the difference in the workings of the mind in old people and in children. The tendency with children is to tear things to pieces to see how they work, and they are commonly indifferent about putting them together again. Experience of life and habit make the old want to build up, to construct rather than take apart. They are always anxious to see their work completed. Work which requires much planning, and of which it is hard to construct a mental picture, confuses the old. Occupation should be pleasurable, and it is not pleasurable if it bewilders the worker. Work should not

be too restful. Rest and quiet are not generally needed so much as a wholesome interest.

The teacher may find it hard to waken interest in work that is soft in color. It is hard to rouse sense perception, and vivid colors may not appear vivid to the old student. Sometimes it is well to explain that the people who buy the work like dull colors. Tact and common sense are necessary in dealing with old people, and an appeal to the reason is generally met with a prompt response.

X

Neurasthenia

The most puzzling problem confronting the inexperienced teacher in dealing with asthenic patients is the difficulty of rousing interest. Perhaps it is as well to let this question go until the patient is started on the road to recovery, and simply carry out the doctor's prescription as to a certain amount to be accomplished. The inability to become interested is part of the lack of initiative and power to execute which are characteristics of the disease. Mental and physical forces are often at a low ebb, and interest is often unattainable, no matter how much the patient may want to become interested, or how conscientiously she may try to fix her attention on her work. The teacher should consider lack of interest as a passing phase of the disease. It sometimes occurs that physical strength returns, so that the patient can take long walks, play golf, or

even, in the writer's experience with neurasthenics, saw wood for an hour at a time, and yet be completely floored, almost panic-stricken, at being asked to plan a simple piece of manual work. Men especially are often a puzzle to the teacher in this respect. Sometimes an entering wedge of efficiency can be inserted through some familiar work, in which the patient has been heretofore so proficient that his habitual skill helps him out, without any great mental effort. Typewriting is a good example. Most business men know how to use the typewriter, and it seems to them a natural thing that they should be asked to type their own letters, or help with hospital work. Very little of that train of doubting thought is aroused, which is so worrisome to the patient and precedes almost every volitional act. The usefulness of the work frequently appeals to a latent sense of practicality, which can generally be reached in a neurasthenic man if the teacher digs deep enough.

Women patients frequently benefit from weaving on a loom. It requires some degree of attention, not too much, and is distinctly interesting. It can be planned easily so that the

difficulty decreases from day to day. Progression in work is quite necessary with this type of patients.

The teacher cannot disregard all the patient's symptoms. She must use tact as well as skill. For instance, many neurasthenics complain of a blurred vision and inability to see colors vividly, others are peculiarly sensitive to harsh colors and much distressed by piercing sounds. Allowance can easily be made by the teacher to give the patients a quiet place to work at first, and a good choice of colors and the conditions can gradually be changed to reach the normal, as the patients gain and grow accustomed to work. It should never be forgotten by the teacher that she is dealing with a disease that is very difficult to cure, and if the work is part of the cure is must be given with as much scientific knowledge as are medications or baths. This does not mean that if a patient works three hours to-day, she must work the same time to-morrow; it may mean that to-morrow being a bad day, she should work only two hours, or, if she seems much better and more interested, she may work four hours. Common sense must

underlie the application of all rules. The teacher's steadiness of purpose, and confidence in the patient's ultimate recovery, generally has an influence in suggesting hopeful trains of thought, even where there is no word of discussion of illness ever allowed. The question often arises as to whether, in view of the inability to take responsibility being a part of neurasthenia, it is not a good plan to try to overcome this by making a neurasthenic help in teaching or in the care of others. The writer's experience has been, that while sufferers from mental diseases frequently benefit greatly from having responsibility put on them, neurasthenics, unless almost well, are more likely to hurt themselves than they are to benefit others. A teacher's report on such a case is given below:

Matron, aged 36, spent about six months in the hospital. The first day I heard her tell the physician that she knew all about what was the matter with her; what she wanted was for him to help her cure herself. She took the whip hand in the same way in regard to occupation work, and the physician ordered the teacher to let her do what she chose. She se-

lected a very intricate bag of knotted raffia work, hard on the eyes, and so elaborate as to be very trying to work at steadily. She took this to her room at the physician's suggestion, and tired herself out so that she was unable to do any more occupation work for some days. She was then willing to be guided by the teacher's advice, and started a sewed basket, but she was able to raise all sorts of difficulties over this; she could not get smooth enough raffia; her reed broke easily. The basket, when at last completed, was a beautiful piece of work, but she at once gave it away, as she said it had caused her so much anxiety she never wanted to see it again. She had the same attitude toward other people's work that she had toward her own—perfection of technique was her only standard, and she constantly discouraged other patients who were working happily, if somewhat clumsily, and made them feel themselves awkward and inexpert. The idea that the effort might be valuable where the result was only fair technically, was one she could not grasp. (She had been for years a retoucher of lantern slides for stereopticon lectures, and perfection was her hobby.) Her physician

talked to the teacher about her, sometimes he stopped her work for a time, and finally he suggested that she be encouraged to feel herself valuable in helping other patients. The teacher and nurse tried to be tactful in making her feel herself very useful, although they did all the real work, and in about two days she reported to her physician that the occupation teacher and the nurse were shirking, and letting her do their work. She also wrote a sharp note to the occupation teacher and said that she was doing the work the teacher was paid for, and even reported this to the superintendent, much to the embarrassment of the physician, who decided that the patient had outlived the good of hospital residence, and shortly after, following a week in bed from over-fatigue, sent her home. She was able to return to her vocation in a few weeks. This was an extreme case, but represents a type of half-sick patients who are a peculiarly difficult problem for the occupation teacher. While such an incident should not be taken too seriously, it is really worth careful thought. This woman was kind-hearted, and meant well to the other patients; her meticulous devotion to

perfection of work was an outcome of years in a vocation demanding it.

The result of trying to have her help was to show how ill she really was, as she could not rise to so simple a situation without great disturbance.

Another patient, who seemed reasonably able to work, rebelled against doing anything, and said she "only worked because she was made to." She seemed very intelligent, became in a few hours quite interested in a comparison of various styles of basketry, decided she could do work as good as any samples in the workroom, and, after that, worked six or seven hours a day, evidently without fatigue, as the physician said she slept better for having worked hard. Her attention was successfully diverted from her illness. The effect, however, reached no further than this; she took no interest in what other patients were doing, was particularly annoyed because children were allowed to work in the same room with her, although she had been a teacher and might naturally be supposed to like children.

In many cases it has seemed to the occupation teacher that patients really needed to

work alone at first, but her judgment in this case was quite the opposite. This woman needed to be taught to be respectful of others' rights. The presence of others did not seem to really disturb her, as she did not appear confused or easily tired, and the excellence of her work showed that she was in fair condition physically. She was the true old-fashioned type of "malade imaginaire." It may be stated parenthetically that her physician pumped enough common sense into her so that she went home at the end of a week "cured."

One case that seems to illustrate the possibilities of occupation work for neurasthenics was that of a young man, a stenographer, broken down in the financial crisis of 1907; he was pale and thin, and became easily tired, so that, at first the work he did had to be such as required the lowest degree of physical strength and of planning. He first made a pierced brass ink well, bought stamped ready to decorate. As he had never done any kind of craft work, the novelty of it attracted him. He next made a basket in Indian work, that is made with raffia, with a needle, over a foundation of reed. By the time this was done

he had more control of his hands, and was also able to plan out what he wanted to do. He planned a scrap basket with a wooden bottom, made by himself, decorated around the top with a band of color. By this time he really enjoyed his work. After this, he drew a wood carving design for a box and carved the top panel. When he was able to go home, he expressed himself as having got a new attitude toward work, and that he would like to make more use of his physical powers, and would like to build a bungalow. A more active and manly kind of life had evidently opened itself up before him, where he could still make use of the dexterity and quickness which had formerly been used only in typewriting. For a time he worked with a surveyor's corps, leading an active outdoor life. This young man coöperated intelligently with his physician and with the teacher, in regard to the occupation work; trained to systematic habits, he kept them even in this serious illness.

Among other men patients taught, one had never come in contact with real work, although he was a man over forty. His physician asked that he be roused to take an interest in several

kinds of work. At first he was rather unwilling to try, became easily fatigued, and paid little attention to anything outside his own condition. But he must have had a natural aptitude for hand work, as he gained rapidly in proficiency, and (as he happened to be associated with some patients who earned their living as artisans) he got a new attitude toward manual labor, which he himself said he had never had before. He appeared to be naturally delicate and had, perhaps, always led a sheltered life, so that this was the first time he had felt the satisfaction of using his strength in honest work.

Psychasthenia

This caption covers such a wide range of humanity that we cannot expect to do more than generalize. Often the nervous instability which makes the individual a prey to fatigue, to distressing thoughts, and to periods of low vitality finds a natural balance in work. Successful physical effort seems to satisfy and benefit these patients by relieving the nervous tension. The work done must be restful rather than stimulating or it fails of its effect.

It is in relation to patients of this type that there would seem to be a peculiar field in the higher applied arts, requiring creative power and dexterity, and some strength. It might be that many could thus reach their maximum of mental and bodily health, and avoid recurring setbacks from ill health.

The attitude of these patients towards work is generally one of keen interest; frequently they are over-enthusiastic. Occasionally this intensity of interest is due to a desire on the patient's part to do something that will keep her from too much thinking of her health, or whatever dominant idea had her in its clutches. In other cases it is due to a genuine interest in the work in hand, and it seems that this normal interest is not disturbed by illness. It is, however, often necessary to hold back patients from working too long and too steadily. The desire to complete work seems to be too keen. The mind seems to leap far ahead of what the body can accomplish, and the impression the teacher gains is that these patients need restful guidance rather than stimulation. In fact, what gain is derived from occupation work seems to be from mechanical work, rather than

from that requiring creative power. This applies to patients so ill as to require hospital care. The most engrossing of craft work, requiring the keenest use of the creative power, probably never cause a "nervous breakdown" such as are often attributed to teaching and other vocations where the human element enters in.

A few examples may illustrate the teaching of these cases. One of these was a schoolteacher of about thirty who had been in school work twelve years, and had had several breakdowns, when she could not sleep or eat. Her attention was entirely taken up with her own condition, physical, mental and moral. She spent many hours a day thinking over her religious beliefs, and talking about them if she could get any one to listen. So absorbed was she in this self-analysis, that rules forbidding conversation about one's ills were entirely forgotten. When allowed to work, she plunged into basketry and wanted to work before breakfast and late at night. The teacher switched her off onto chair caning, which being somewhat monotonous and mechanical, seemed to quiet her at once. The difficulties

presented were sufficient to hold her attention, but not overstimulating. She caned eight chairs in a fortnight, and soon after was able to return home.

Another patient, a trained nurse of about 50, had much the same restless activity. Her physical condition was the subject of her depressing thoughts, but she also was amenable to discipline through manual work. She became interested in basketry, and it had the same effect in restoring her balance that chair caning had on the first-mentioned patient. She became a successful teacher of craft work in a Boys' Club.

A third case of peculiar interest is that of a young woman of about 30, so delicate that she had constant nervous attacks if she attempted, as she put it, to "live like other people." She decided to spend one winter under the care of a nerve specialist to "learn how to live." She wanted work to occupy an hour or two a day and chose basketry, deciding to make one really beautiful sewed basket. At first she could work only a few minutes, and the teacher had to help her plan the design. Later, she elaborated the original design and

introduced more colors. The basket, when completed, was really a work of art and the patient calculated it had filled more than two hundred hours. She meanwhile had gained so in strength and became so much interested in craft work, that she decided to take a course in book-binding, and has made a great success of it. This is a type of person who knows she has inherited a neuropathic temperament and is systematically trying to fortify herself, with good results.

XI

Work with Cripples

The crippled and the blind were among the first to demonstrate the possibilities of handicraft work as a means of livelihood. Wherever work was started it became almost immediately successful. The results of early attempts at training cripples in Europe and this country have been carefully studied so that it can be estimated with a fair degree of accuracy what work should be possible for one limited by any particular handicap, such as the loss of a hand or a foot.

Among the European countries which took up, many years ago, scientific work with the crippled and injured, was little Denmark. Reverend Hans Knudsen in 1872 opened a clinic and school. The aim of this clinic was "ameliorating the corporal deformity of the cripple, and afterward by means of an industrial school, teaching him how to work, so that

he might contribute to his own sustenance." The Government backed him financially shortly after he started in this work, and he aimed from the outset to help every cripple in the confines of Denmark. In one of the reports of this school the following statement occurs:

"The cause of the deformed is taken up all over Denmark with the greatest sympathy, which finds expression in many ways. Most daily papers insert advertisements free of charge. The annual report is printed for nothing, nor is any charge made for telephone, paper, medicine, hospital treatment, etc."

The output from this school is bought not only by private individuals, but by the Government. The railways buy linen and cotton goods, furniture, brushes, etc., and the street cleaning departments buy brushes.

After the success of the Danish school was assured, Pastor Knudsen longed to bring happiness and financial help to cripples in other countries. In 1884 an International Congress of Physicians held in Copenhagen brought many visitors, and an opportunity was given to show the work done. A new

school was soon started in Gothenburg, Sweden, in which weaving, printing, and bookbinding are among the industries taught. The making of orthopædic boots, braces, and other hospital appliances is also very satisfactorily done. Pupils who have completed their course in the school and learned a trade are sometimes given a set of tools to work at home. It is said that there is no cripple who could possibly become self-supporting left untrained in Scandinavia. In addition to the benefit from learning trades, these cripples gained much physically.

In England the schools have been conducted on a somewhat different principle, small children being taken as pupils and given therapeutic gymnastics and craft training up till the age of sixteen. Jewelry work, tailoring and harness making are among the trades taught.

Many schools in this country have been conducted successfully on a somewhat similar principle, the only difference being in the fact that the graduates frequently continue to work in the school workshop, instead of carrying on their trades at home. As many of them live

OCCUPATION ROOM AT HOSPITAL FOR RUPTURED AND CRIPPLED, NEW YORK CITY.

Such a great room as this could be utilized for large classes of crippled workers coming in from outside for daily work and treatment.

in tenements, it goes without saying that embroidery and many other trades can be better done at the school.

The Hospital of Hope in the Bronx, New York City, under the enthusiastic direction of Dr. Jaeger, is an enterprise on a somewhat more scientific basis, in that it aims to train young men between the ages of sixteen and thirty-five in skilled trades, especially chosen with regard to individual handicaps. These workers can then carry on their trades in any shop where they can get positions. Among the work done is reed and willow furniture making, cabinet making, silver smithing, monograms and wood engraving, die work, show card writing, and mechanical drawing. The men who enter the school must be able to walk, but the loss of one hand, or one foot, does not make the applicant ineligible. The work that seems the most remarkable to the general observer is that done in art glass, or mosaic work, by one-handed men. A treadle operated by the foot is used in placing the work. Small pieces of glass are used to form the design. This is one of the most lucrative trades taught.

One great difficulty met with in the training of adult cripples is the restoring of self-confidence. So many seem to have "lost their grip," and feel themselves far more incapable than they are. Special attention has been paid to this phase of the subject in the chapters on Reëducation and on Tabes. The same thing is true in regard to those crippled by accident, and it is well to have as short an interval as possible between discharge from hospital care and the beginning of training. This is one of the best arguments for trade work in hospitals.

The teaching of crippled children must necessarily be done with great care. In the case of Infantile Paralysis, it may be combined with physical exercise in order to get the best therapeutic effect. This has already been touched on in the chapter on Paralysis. In the work with children suffering from bone tuberculosis, Potts' Disease or hip disease, the physician may be able to predict how much deformity must be allowed for, so that, if the child is liable to be permanently misshapen, work requiring little strength may be given.

Frequently these children have great delicacy of touch, and a keen color sense, and these characteristics may be made use of in planning work.

APPENDIX

As an example of the variety and the extent of the work done in one state hospital—The State Colony for the Insane, at Gardner, Massachusetts—the following list of manufactures and products is copied from the Annual Report for 1914.

The State Colony at Gardner is above the average in industrial efficiency, but the possibilities of production have only begun. A very small proportion of the farm is utilized in any way and many possible industries are curtailed or omitted for lack of support or funds.

Industrial Department

WORK DONE BY WOMEN

Aprons, dining-room...	110	Bags, candy, Christmas.	117
Aprons, gingham.....	42	Bags, coffee	51
Aprons, kitchen.....	258	Bags, Irish crocheted...	4
Aprons, white.....	70	Bags, jelly	6
Babies' bib, embroidered	1	Bags, laundry.....	170
Baby's pillow tops, em-		Bags, tea.....	49
broidered	2	Bags, twine, laundry....	31

Bags, twine, school.....	12
Baskets, raffia.....	114
Baskets, reed.....	14
Bibs	136
Bibs, apron.....	6
Blankets, hemmed.....	176
Books covered, library..	80
Bonnets	2
Brush and broom cases, embroidered	4
Bureau covers, hemstitched	133
Burial robes.....	24
Canvas pillow support..	1
Canvas covers and swings for continuous bath	2
Caps, cloth.....	4
Caps, corduroy.....	56
Case for rubbers, embroidered	1
Cases, leather, medicine bottle	5
Chemises	281
Chemise yokes, Irish crocheted	4
Coats (men patients)...	133
Coats (women patients)	4
Collar and cuff sets, Irish crocheted	2
Collar, Irish crocheted..	1
Collar and yoke, Irish crocheted	1
Corset covers.....	26
Covers, baseball base ...	3
Cover, blasting mat,....	1
Covers, broom.....	6
Covers, canvas buffers..	79
Covers, dentist chair hand rest.....	34
Covers, cotton floor, painters'	5
Cover, printing-press...	1
Covers, requisition book.	60
Covers, screen, hospital.	12
Crocheted beading and cord (yards).....	2
Crocheted doilies, table.	6
Crocheted napkin rings.	18
Crocheted slippers (pairs)	7
Curtains, scrim (pairs).	131
Curtains, dressing-room, khaki	2
Curtain ties (pairs)....	39
Cushion covers.....	9
Doilies, hemstitched.....	3
Dolls, dexter cotton.....	14
Drawers, cotton, patients'	224
Dresses, patients'.....	651
Embroidered boudoir cap	1
Embroidered bureau scarfs	4
Embroidered center pieces	7
Embroidered collar and cuff sets.....	5
Embroidered collars.....	2
Embroidered doilies.....	58
Embroidered lunch cloth	1
Embroidered neckties....	6
Embroidered pillow cases	24
Embroidered pillow tops	7
Embroidered pincushions	8
Embroidered table covers	12
Embroidered waists, voile	5
Golf capes.....	17

Handkerchiefs (dozen)..	19
Handkerchiefs, crocheted edge	3
Handkerchiefs, hemstitched	23
Hats, palm-leaf.....	139
Holders, kitchen.....	282
Jabots, Irish crocheted..	2
Jumpers	310
Kimono	1
Lace, knitted (yards)...	37½
Lunch sets, crocheted (20 pieces in set).....	4
Mattress cases.....	79
Mats, Colonial (3 pieces in set).....	45
Mittens (pairs).....	704
Napkins, sanitary.....	264
Napkins, table.....	342
Neckties	181
Neckties, crocheted.....	2
Nightgowns	417
Overalls	984
Padded aprons, dishwashers	3
Pillow cases.....	587
Pillow tops.....	8
Pillow shams, drawn work	2
Rags, sewed for rugs (pounds)	1,725
Reefers	28
Rugs, braided.....	183
Rugs, hooked	17
Rugs, woven	145
Scrim curtains, hemstitched	33
Shawl, knitted	1
Sheets, officers	145
Sheets, patients	1,320
Shirts, hospital	62
Shirts, outside	504
Shirtwaists	8
Shoe tops, stitched (pairs)	697
Sideboard covers, hemstitched	3
Sideboard covers, hemstitched, drawn work.	2
Skirts, dress	6
Slippers, crocheted (pairs)	2
Socks toed (pairs)	3,116
Stand covers	35
Suspenders (pairs)	818
Tablecloths	39
Table covers, hemstitched	43
Table covers, plain	45
Tag case	7
Tatting collars	11
Tatting doilies	5
Tatting edge and insertion (yards)	10
Towels, embroidered ...	5
Towels, hemmed	5,840
Tray cloths	27
Trousers (pairs)	922
Underskirts	601
Upholstered cushion linings	4
Vests	88
Wash cloth, embroidered	1
Window shades stitched.	211
Worsted Santa Claus ...	24

Mending

Aprons	172	Mittens (pairs)	221
Bags, tea and coffee	8	Nightgowns	322
Barber's chair cover	1	Nightshirts	47
Baseball pants	10	Oilcloth table covers	13
Bedspreads	6	Overalls	1,761
Blanket, bed, cotton	1	Overcoats	2
Bureau cover	1	Petticoats	542
Cape	1	Pillow slips	2
Caps	50	Reefers	70
Chemises	64	Rugs	9
Coats, men's	1,391	Sheets	24
Corset covers	23	Shirts, men's, colored	1,834
Curtains	12	Spreads	8
Dishwashing pads	6	Stockings	4,034
Drawers	115	Sweaters	4
Dresses	976	Tablecloths	10
Flags	14	Tent	1
Gloves (pairs)	3	Trousers	2,499
Horse blankets	4	Underdrawers	1,579
Jumpers	491	Undershirts	1,180
Kimonos	2	Underskirts	12
Laundry bags	37	Vests	312

WORK DONE BY MEN

Blacksmith and Machinist

Anchor irons made	136	Catches made	4
Andirons made (sets)	7	Chafe irons made	4
Angle irons made	264	Chain and toggle made	1
Axe wedges made	12	Chains made	5
Bands, etc., made	8	Chains repaired	80
Bitstock socket	1	Chisels made	2
Bolts made	505	Chisel sharpened	1
Braces made	83	Clamps made	14
Braces straightened	2	Clevis made	1
Bracket made	1	Coal shovel repaired	1
Bunk-irons made (set)	1	Crowbars made	4
Cant hooks shaped	3	Crowbars sharpened	61
Carriages repaired	6	Cultivators repaired	4

Cut and flange (1-inch pipe, for steps)	1
Cutting piece of smoke-stack	1
Damper iron made	1
Door guides made	2
Door latch made	1
Doorstep repaired	1
Draw irons made	3
Eyebolts made	7
Eyelets made	5
Evener made	1
Evener repaired	1
Evener staple made	1
Fertilizer spreader repaired	1
Flag-pole ring made	1
Gambrel made	1
Garden basket legs made	4
Gear pullers made	2
Grass hooks repaired	2
Grate lifter made	1
Grub hoes sharpened	11
Hames repaired	2
Hammer strap made	1
Hammer wedges made	24
Hangers made	50
Harrows repaired	10
Hasps made	2
Hay hooks made	3
Hinges made	16
Hinges repaired	3
Hoes repaired	2
Holes drilled	602
Hooks made	34
Horses shod	152
Horse shoes set	36
Horse shoes sharpened	10
Ice plow repaired	1
Ice tongs made (pair)	1
Ice tongs repaired (pair)	1
Iron gate made	1
Iron plate made	1
Iron stakes, fence, made	10
Irons straightened	2
Lamp clamp made	1
Latches and bolts made	3
Light protectors made	16
Links, chain, made	8
Manure spreaders repaired	3
Meat saw repaired	1
Mowing machines repaired	2
Neck yokes made	10
Neck yokes repaired	2
Oxen shod	142
Ox yokes repaired	7
Payout reel made	1
Picks resteeled	47
Picks sharpened	234
Pinch bars sharpened	2
Pipe rests made	6
Plows repaired	2
Plow rod repaired	1
Pole end iron and pin made	1
Potato parer repaired	1
Presser foot arm made	1
Punch made	1
Remnant bag supports made	2
Ring bolts made	2
Rings made	40
Rods bent	42
Rods made	208
Rods straightened	2
Saw handles repaired	2
Scale repaired	1
Screw driver repaired	1

Screw made	1
Shaft box repaired	1
Shaft iron repaired	1
Shafts repaired	7
Shipper irons made	3
Shovels repaired	3
Sled dogs made	2
Sleds repaired	8
Sled shod	1
Sleighs repaired	4
Sleighs shod	5
Soldering irons repaired	3
Stanchion irons made	16
Stanchion latches made	2
Stanchion repaired	1
Staples made	38
Stepladder stays made	2
Stone drills made	23
Stone drills sharpened	1,085
Stone drill spoons made	3
Stone drill spoons repaired	3
Stone hammers refaced	7
Strap irons made	92
Stripping hammers refaced	3
Sulky plows repaired	3
Tailboard irons made	2
Tires made and put on wagon	4
Tires set, carriage	6
Tires set, wagon	2
Trimming knife made	1
Wagons repaired	8
Wagon yoke made	1
Washers made	31
Welding (pieces)	3
Whiffletree iron set	1
Whiffletree repaired	1
Window openers made	12
Wrench made	1

Broom and Brush Department

Brooms made	219
Rattan	12
Toy	1
Whisk	1
Brushes made:—	
Ceiling	16
Counter	114
Floor	130
Mane and tail	50
Radiator	125
Scrub	248
Scrub, long-handled	41
Vegetable	320
Window	67
Mat, cocoa (9 feet 6 inches by 6 feet 5 inches)	1
Mattresses:—	
Hair (4-foot)	10
Hair (2 feet 6 inches)	65
Pillows, hair	38
Stockings knitted (pairs)	514
Toweling woven (yards)	171
Upholstery:—	
Carriage backs and seats	2
Chairs, arm	6
Cushions made, leather (2 feet by 5 feet)	6
Sleighs	2

CARPENTER

Axe handles made.....	7	Cupboards made	4
Bannister repaired	1	Door casings repaired...	2
Barn ceiling repaired...	1	Door hung, barn.....	1
Bathroom platform repaired	1	Door jam repaired.....	1
Box, book, made.....	1	Door knobs repaired....	3
Box, blasting mat, made.	1	Door spring repaired...	1
Boxes, bushel, made.....	48	Doors, inside, made.....	3
Boxes, half-bushel, made	12	Doors repaired	225
Box, cheese, made	1	Doors, screen, made.....	6
Boxes, guinea pig, made	6	Drawers repaired	14
Box, special, made.....	1	Ensilage barrow repaired	1
Box, motor and switch, made	1	Evener made	1
Bread boards made.....	2	Extension ladders made (24 feet each).....	6
Bread boxes repaired....	2	Fenders, swing stage....	2
Cabinet benches made...	2	Fertilizer screen made..	1
Cabinet closets made....	2	Fertilizer spreader repaired	1
Cart repaired	1	File handle made.....	1
Carriages repaired	3	Flagpoles made (60 feet high)	2
Chain guard, door, put on	1	Flagpole caps made....	2
Chair swing repaired....	1	Floor, horse stall, made.	1
Chicken houses made....	15	Floor polishing blocks made	6
Cleat, flagpole halyard, made	1	Floors repaired	7
Clothes boxes repaired..	2	Floor swabs made.....	9
Clothes line posts made.	2	Frames, window, made..	3
Clothes locker made.....	1	Fuse box, switch, made..	1
Clothes rack repaired...	1	Gate, chicken coop, made	1
Coat hangers repaired ..	10	Grading stakes made...	620
Cold-air shaft repaired..	1	Grove seats made.....	18
Cold frames, vegetable, made	2	Handles, payout-reel, made (set)	1
Counter, store	1	Harrows repaired	3
Counter-motor, store, made	1	Hen houses repaired....	2
Crates, hot-water heater.	3	Hen trap nests made....	24
		Hog troughs made.....	2

Horse stalls repaired...	12
Horse rack made.....	1
Hot-bed frame sashes made	15
Ice plow sharpened.....	1
Ice run made (feet)....	61
Ironing boards and stands made	5
Ironing board made....	1
Keys made	35
Kitchen sink repaired...	1
Kitchen utensil rack made	1
Lawn mowers repaired..	3
Locks put on.....	73
Locks repaired	295
Lumber planed (feet)..	1,100
Meat board made.....	1
Neck yokes made.....	46
Overlook cottage, built..	1
Ox yokes repaired.....	2
Pantry shelves made (set)	1
Partitions made	2
Patterns, casting, made.	10
Piano legs repaired.....	4
Piazza repaired	1
Platform cover repaired.	1
Platforms repaired	2
Rack, paper bag, made..	1
Rack, time card, made..	1
Refrigerators repaired..	2
Roofs repaired	7
Rubbers put in door steps	6
Sawhorses made	7
Saws filed	200
Screen doors made.....	5
Scuff hole repaired.....	1
Scuttle repaired	1
Sections, strawberry crate, made	24
Shelves made	5
Shipping box made.....	1
Shoe rack made.....	1
Signs made	24
Slaughter house	1
Sled, log, made.....	1
Sledge hammer handles replaced	150
Sleds repaired	12
Sleighs repaired	2
Snow shovels repaired...	5
Stair railings repaired..	1
Stairs repaired	5
Stakes, grade, made....	450
Stanchions repaired	15
Step made (4-foot).....	1
Stepladders made (2 feet, 4 feet and 6 feet each)	3
Sticks, laundry rack, made	24
Stone boats made.....	36
Table shelf made.....	1
Tennis court screens erected (feet)	100
Toilet paper box repaired	1
Tool box cover made....	1
Tool box made.....	1
Towel rack repaired....	1
Trucks repaired	2
Vegetable boxes made..	36
Ventilator repaired	1
Wagon body made.....	1
Wagons repaired	4
Wall boxes made.....	4

Wardrobe made	1	Window screens made	73
Water closet repaired	1	Window screens repaired	250
Whiffletrees made	6	Windows made	4
Windmill repaired	1	Windows repaired	70
Window casing made	1	Window stops put on	250
Window frames repaired	64	Wooden screen, bathtub	1
Window guard repaired	1	Wood rack made (10½ by 3½ feet)	1
Window sash repaired	1		

FURNITURE DEPARTMENT (NEW WORK)

Apparatus, gymnasium, set up	4	Chairs, rattan rocking	36
Bases, wood basket	6	Chair rounds made	35
Baskets, berry	6	Chiffonniers	12
Baskets, office	5	Curtains, shades, rollers and fixtures	23
Baskets, wood	1	Desks, writing	3
Beds set up	11	Diet board	1
Benches made (102¼ feet)	15	Dressers	7
Box, card index	1	Forms, laundry bag	12
Boxes, drawer, library card	9	Frames, lacework	23
Boxes, flower	6	Frames, picture	15
Boxes, flower, reed	4	Gags, mouth	23
Boxes, flower, with stands	9	Handles, hammer	9
Boxes, knife	4	Jacks, tailor	9
Boxes, special	3	Key	1
Boxes, toilet paper	8	Machines, power sewing, set up	5
Brackets, flower box	18	Plugs, bed	3
Brass nosing put on stairs	18	Presses, tailor	3
Bulletin board with card holder	1	Racks, apple drying	4
Cabinet, phonograph	1	Racks, book	9
Cases, thermometer	7	Racks, laundry bag	8
Castors, chair	36	Rack, table and pan	1
Chairs, dining-room	36	Rack, table, 24-lock drawer	1
Chairs, patients', dining-room	46	Racks, towel	9
		Rods, flag	12
		Rollers, curtain	5

Rubber treads put on stairs	18	Tables, day room, round top	8
Screens, bedside folding.	3	Tables, card	6
Shanks, shoe	1,300	Tables, folding	6
Shuttles, loom	10	Tables, dining, officers'..	6
Shuttle, sewing machine.	1	Tables, reed	1
Stand, inkwell	1	Table, telephone	1
Stools, foot	2	Table, work	1
Stool, high	1	Ventilator, window, portable	1
Stools, milking	6	Wands, gymnasium	18
Stretcher, loom	1	Wheelbarrows assembled	24
Swift, loom	1		

FURNITURE DEPARTMENT (REPAIRS)

Barber's shears sharpened	31	Drawers, sewing machine	2
Baskets, laundry	9	Foot rest	1
Belts, sewing machine..	3	Frames, mat	10
Belts, sewing machine, tightened	7	Frames, picture	12
Benches	25	Graphophones	4
Bench, piano	1	Grommets put in canvas	9
Billiard cues	100	Guns, wooden, with rack	16
Boxes, shipping	3	Handles, floor brush....	2
Boxing, sewing machine head	1	Handles, swab, put in..	7
Bookcase	1	Hooks, rug, refiled.....	6
Chair, barber's	1	Knives sharpened	51
Chairs	260	Locks put on	41
Clocks	5	Looms	6
Clocks set up	3	Machines, sewing, cleaned	3
Clocks, watchman's, repaired	3	Machines, sewing, repaired	32
Couches	5	Mirror set up	1
Couch top reseated	1	Pedal, organ	1
Curtains	12	Pianolas	3
Curtains and fixtures set up	4	Piano tops	2
Curtains changed	20	Pool table, covered	1
Curtains hung	41	Potter's wheel	1
		Pulls, curtain, put on...	4
		Rods, curtain	23
		Roller curtain	1

Rubber mat foot stool, dentist	1
Saw filed	1
Settees	26
Scissors	91
Scissors sharpened	93
Stand	1
Stools	2
Tables	16
Table, cutting	1
Tables, sewing	14
Tray, letter	1
Wheelbarrows	64
Wheelbarrows repainted.	7

Mason

Brickwork:—	
Bricks laid, red	10,000
Chimneys built	3
Clean-outs built	9
Closets built	2
Cold-air boxes built	2
Fireplaces built	2
Kettles set	2
Manholes built	4
Piers built	6
Refrigerator built	1
Cement work:—	
Cellars cemented	3
Cesspool made	1
Chimney caps made	3
Coping made (60 feet by 2 feet by 6 inches)	1
Cow barn floor put in	1
Curb made (feet)	30
Door sills made	9
Flagpole footings made.	2
Footings made	18
Grain boxes made	3
Hitching posts made	3
Ice landing made	1
Mangers made	2
Refrigerator cemented	1
Reënforced chimney foundation made (10 feet by 10 feet by 12 feet)	1
Roofs made	2
Room floors put in	9
Silo fixed	1
Terrazzo floors put in	2
Trestle piers made	2
Walks put in (cubic yards)	30
Window sills made	9
Miscellaneous:—	
Blasting (days)	50
Chimneys cleaned out	6
Chimney clean-outs put in	4
Holes drilled in cement floors	100
Holes drilled in stone walls	10
Range repaired	1
Switch boxes repaired	12
Thimbles set	3
Tile pipe laid (feet)	1,000
Tile floors relaid	6
Ventilators put in	3
Windows repaired	12
Plastering:—	
Chimneys plastered	3
Patches put on	150
Plastering (square yards)	900
Skimming (square yards)	900

Walls plastered	6	Chimney built	1
Pointing:—		Culverts built	3
Brick walls	5	Ice house underpinning.	1
Stone walls	4	Piers built	20
Stone work:—		Retaining walls built	6
Cesspools built	2	Storehouse underpinning	1

PAINTER

Ambulance painted	1	Eveners painted	3
Automobile painted	1	Express wagon painted.	1
Bakery oven painted	1	Fence post painted	66
Barber chair refinished..	1	Fire escapes painted	4
Beds enameled	22	Flagpole balls painted..	2
Benches finished	14	Floors varnished	7
Blinds painted (pairs).	82	Flower stands painted..	4
Bookcases finished	2	Flower tubs painted	4
Book holder finished	1	Folding screens painted.	2
Bread boxes lettered	4	Food truck enameled	1
Bread mixers painted	2	Game boards painted	4
Buildings painted inside	5	Glass set (panes)	639
Buildings painted outside	11	Halls painted	2
Bulletin boards finished.	2	Hay rack painted	1
Butter case finished	1	Heavy wagons painted..	2
Carriages painted	5	Hitching posts painted..	6
Cart pole painted	1	Hot-bed sashes painted..	2
Chairs finished	96	Inkwell stands refinished	3
Chairs refinished	285	Knife boxes finished	8
Checker board finished..	1	License frames finished.	12
Chiffonniers finished	6	Looking-glass frames finished	2
Clothes closets finished..	4	Meat tubs painted	5
Couches refinished	3	Medicine trays finished.	2
Dentist chair refinished..	1	Miscellaneous boxes finished	14
Desks finished	3	Miscellaneous cabinets finished	6
Desks refinished	7	Miscellaneous cases finished	2
Diet board finished	1	Neck yokes painted	5
Doors finished	8		
Dressers finished	7		
Dressers refinished	2		
Electric cabinets	2		

Ox carts painted	2
Piazza floors oiled	6
Picture frames finished	3
Refrigerator painted	1
Rooms refinished	31
Screen doors painted	33
Settees refinished	25
Sewing machines refinished	7
Shafts, new leather (pairs)	2
Shafts painted (pairs)	2
Shoe boxes finished	2
Shovels painted	15
Signs painted	85
Sled painted	1
Sleighs painted	7
Steam kettles painted	8
Steel ceilings painted	13
Steps painted	3
Stools finished	4
Storm porches painted	3
Storm windows painted	50
Tables finished	56
Toilet boxes finished	8
Water tower roof painted	1
Window frames painted	10
Window screens painted	419
Window strips painted	280
Whiffletrees painted	4

SHOE DEPARTMENT

Baseballs resewed	15
Baseball gloves repaired	12
Bass-drum head repaired	1
Case for night watch repaired	1
Fan belts for automobile	2
Harnesses repaired:—	
Single harnesses	30
Double harnesses	7
Lacings for basket ball	6
Medicine cases made	3
Ox muzzle straps put on	8
Shoes made:—	
Brogans (pairs)	368
Goodyear welt (pairs)	142
Slippers (pairs)	416
Women's (pairs)	282
Shoes repaired:—	
Buckles put on	21
Counters	66
Eyelets (pairs)	38
Heels, leather (pairs)	1,624
Heels, rubber (pairs)	82
Insoles	62
Lacing hooks	33
Linings sewed	2
Moccasins sewed (pairs)	2
Patches, leather	145
Rubbers patched	82
Relasted (pairs)	34
Resoled, leather (pairs)	86
Resoled, rubber (pair)	1
Soles sewed (pairs)	3
Tapped (pairs)	1,442
Tips sewed	2
Tongues, new	4
Uppers sewed	119
Sleigh repaired	1
Slippers repaired:—	
Heels (pairs)	641
Patched	44
Relasted (pairs)	15
Tapped (pairs)	601

Tailoring Department

Patterns drafted and made:—		Khaki	140
Drawers	3	Dresses cut out:—	
Dress skirt	3	Night	144
Jumper	4	Regular	294
Mitten	2	Strong	3
Nightgown	1	Jumpers cut out	451
Overall	4	Mittens cut out	1,038
Sack coat	12	Shirts, colored, cut out	696
Skirt	5	Trousers cut out:—	
Store coat	1	Corduroy	51
Trouser	10	Khaki	387
Vest	8	Regular	436
Waist	10	White duck	14
Coats cut out:—		Vests cut out	137
Sack	297	Coats made, sack	326
Store, long	6	Trousers made	39
White duck	14	Vests made	5

DOMESTIC DEPARTMENT

Manufactured

Soap made (pounds)	147	Soap, soft, made (pounds)	2,575

Pickles, Preserves, Etc.

Apple jelly (quarts)	2	Cucumbers, pickled (quarts)	96
Beans, string (quarts)	41	Cucumbers, salt (barrels)	5
Blackberries (quarts)	112	Currant jelly (quarts)	94
Blueberries (quarts)	718	Grape jelly (quarts)	42½
Catsup, tomato (quarts)	12	Pears (quarts)	387
Catsup, tomato and apple (quarts)	16	Pears, pickled (quarts)	6
Cherries (quarts)	8	Peas (quarts)	26
Chili sauce (quarts)	32	Piccalilli (gallons)	111
Chow-chow (quarts)	34	Pickles (gallons)	57
Corn, sweet (quarts)	344	Pickles, sweet (gallons)	16
Crab-apple jelly (quarts)	8	Plums (quarts)	20

Pumpkin (quarts) 17
Raspberries (quarts)... 74
Rhubarb (quarts) 89
Strawberries (quarts)... 116
Tomatoes, canned (quarts) 548
Tomatoes, sweet pickled (gallons) 190

Products of Farm, by Colonies

Belcher Cottage

Apples, firsts, barrels, 25, at $2	$ 50.00
Beans, dry, bushels, 32, at $2.65	84.80
Beans, shell, bushels, 10, at $0.85	8.50
Beans, string, bushels, 57½, at $0.85	48.87
Beet greens, bushels, 8, at $0.40	3.20
Beets, bushels, 26½, at $0.60	15.90
Blackberries, quarts, 28, at $0.12	3.36
Blueberries, quarts, 205, at $0.14	28.70
Cabbage, pounds, 4,533, at $13 a ton	29.46
Carrots, bushels, 90½, at $0.60	54.30
Celery, boxes, 8, at $0.75	6.00
Chard, bushels, 91, at $0.40	36.40
Chicken, pounds, 282, at $0.24	67.68
Cordwood, cords, 65, at $5	325.00
Corn, green, bushels, 47, at $0.60	28.20
Cucumbers, boxes, 8, at $1	8.00
Eggs, dozen, 1,065½, at $0.25	266.35
Ensilage, corn, tons, 195, at $5	975.00
Fodder, corn, tons, 6, at $5	30.00
Fodder, rye, tons, 1¾, at $5	8.75
Fodder, Hungarian millet, tons, 2½, at $5	12.50
Fodder, oats and peas, tons, 1½, at $5	7.50
Fodder, green hay, tons, 11¼, at $5	56.25
Fowl, pounds, 229½, at $0.17	39.01
Hay, English, tons, 26, at $20.75	539.50
Hay, Hungarian millet, tons, 2, at $12	24.00
Lettuce, boxes, 43, at $0.25	10.75
Mangel-wurzels, bushels, 64½, at $0.25	16.12

Manure, cords, 220, at $6	$1,320.00	
Manure, hen, barrels, 20, at $0.75	15.00	
Onions, bushels, 15⅞, at $0.60	9.40	
Parsnips, bushels, 8¾, at $0.65	5.68	
Peas, green, bushels, 14, at $2	28.00	
Potatoes, bushels, 65, at $0.55	35.75	
Pumpkins, pounds, 302, at $0.01½	4.53	
Radishes, bushels, 2, at $0.75	1.50	
Rhubarb, pounds, 56, at $0.01	.56	
Spinach, bushels, 11, at $0.35	3.85	
Scullions, bushels, 8½, at $0.25	2.13	
Squash, winter, tons, 1⅜, at $20	27.50	
Tomatoes, ripe, bushels, 17, at $1	17.00	
Tomatoes, green, bushels, 20, at $1	20.00	
Turnips, bushels, 150¼, at $0.75	112.68	
Turnip greens, bushels, 38, at $0.25	9.50	
		$4,397.18

Fairview Cottage

Apples, barrels, 1⅞, at $2	$ 3.33	
Blueberries, quarts, 150, at $0.14	21.00	
Eggs, dozen, 73⅝, at $0.25	18.46	
Pears, bushels, 5½, at $0.75	4.13	
Turnips, bushels, 20, at $0.75	15.00	
		$ 61.92

Garden at Receiving Group

Asparagus, box, 1, at $4	$ 4.00
Beans, shell, bushels, 65½, at $0.85	55.67
Beans, string, green, bushels, 66¾, at $0.85	56.74
Beans, string, wax, bushels, 10, at $0.85	8.50
Beets, bushels, 89½, at $0.60	53.70
Beet greens, bushels, 332, at $0.40	132.80
Blackberries, quarts, 129, at $0.12	15.48
Blueberries, quarts, 1,147, at $0.14	160.58
Cabbage, pounds, 15,357, at $13 ton	99.82
Carrots, bushels, 56, at $0.60	33.60
Cauliflower, bushels, 20⅝, at $0.55	11.34
Celery, early, boxes, 58⅛, at $0.75	43.75
Celery, late, boxes, 66⅔, at $0.75	50.00

Chard, bushels, 140, at $0.40	$ 56.00	
Cordwood, cords, 35, at $5	175.00	
Corn, green, bushels, 551, at $0.60	330.60	
Cucumbers, boxes, 79¾, at $1	79.75	
Currants, quarts, 373, at $0.05	18.65	
Fodder, cabbage and turnip tops, tons, 3, at $5	15.00	
Fodder, corn, tons, 16, at $5	80.00	
Gooseberries, quarts, 9, at $0.10	.90	
Hay, meadow, tons, 4, at $11	44.00	
Lettuce, boxes, 82, at $0.25	20.50	
Parsley, bushels, 10¾, at $0.65	7.00	
Parsnips, bushels, 30, at $0.65	19.50	
Peas, green, bushels, 56, at $2	112.00	
Peppers, green, bushels, 3, at $0.50	1.50	
Potatoes, bushels, 64½, at $0.55	35.47	
Pumpkins, pounds, 800, at $0.01½	12.00	
Radishes, bushels, 59, at $0.75	44.25	
Raspberries, quarts, 120, at $0.18	21.75	
Rhubarb, pounds, 387, at $0.01	3.87	
Spinach, bushels, 43, at $0.35	15.05	
Squash, summer, barrels, 5 1/10, at $0.60	3.06	
Squash, winter, pounds, 2,146, at $20 per ton	21.46	
Strawberries, quarts, 1,056, at $0.12	126.72	
Tomatoes, green, bushels, 74, at $1	74.00	
Tomatoes, ripe, bushels, 182¼, at $1	182.25	
Turnips, bushels, 248½, at $0.75	186.38	
		$2,412.67

GARDNER COTTAGES

Apples, cider, barrels, 5¾, at $0.30	$ 1.73
Apples, seconds, barrels, 5, at $1.50	7.50
Apples, firsts, barrels, 7½, at $2	15.00
Beans, shell, bushels, 14½, at $0.85	12.33
Beans, string, bushels, 21½, at $0.85	18.28
Beets, bushels, 24⅛, at $0.60	14.47
Beet greens, bushels, 8, at $0.40	3.20
Blueberries, quarts, 683, at $0.14	95.62
Cabbage, pounds, 1,154, at $13 a ton	7.50
Carrots, bushels, 196¾, at $0.60	118.05

Chard, bushels, 29, at $0.40	$ 11.60	
Cordwood, cords, 130, at $5	650.00	
Corn, green, bushels, 27, at $0.60	16.20	
Cucumbers, pickling, pecks, 133⅓, at $0.35	46.66	
Cucumbers, boxes, 35½, at $1	35.50	
Eggs, dozen, 809 9/12, at $0.25	202.31	
Ensilage, corn, tons, 60, at $5	300.00	
Fodder, oats and peas, tons, 13, at $5	65.00	
Fodder, turnip tops, tons, 2, at $5	10.00	
Hay, English, tons, 30, at $20.75	622.50	
Hay, oats and peas, ton, 1, at $15	15.00	
Lettuce, boxes, 37, at $0.25	9.25	
Mangel-wurzels, bushels, 118½, at $0.25	29.63	
Manure, cords, 45, at $6	270.00	
Manure, hen, barrels, 12, at $0.75	9.00	
Milk, quarts, 20,029, at $0.05⅔	1,134.98	
Onions, bushels, 82½, at $0.60	49.50	
Peas, green, bushels, 14, at $2	28.00	
Potatoes, bushels, 2,598, at $0.55	1,428.90	
Radishes, bushels, 6¼, at $0.75	4.69	
Raspberries, quarts, 14, at $0.18	2.52	
Rhubarb, pounds, 136, at $0.01	1.36	
Scullions, bushels, 10½, at $0.25	2.62	
Spinach, bushels, 11, at $0.35	3.85	
Squash, summer, barrels, 2 1/10, at $0.60	1.26	
Squash, winter, tons, 1⅗, at $20	32.00	
Tomatoes, green, bushels, 6, at $1	6.00	
Tomatoes, ripe, bushels, 14¾, at $1	14.75	
Turnips, bushels, 304½, at $0.75	228.37	
Turnip greens, bushels, 94, at $0.25	23.50	
		$5,548.63

Hillcrest Cottage

Apples, firsts, 148⅗, at $2	$ 297.20	
Apples, seconds, barrels, 22, at $1.50	33.00	
Apples, cider, barrels, 20⅘, at $0.30	6.24	
Beans, string, bushels, 14¼, at $0.85	12.11	
Beans, shell, bushels, 14¼, at $0.85	12.11	
Beans, dry, bushels, 7⅘, at $2.65	20.76	
Beets, bushels, 20¼, at $0.60	12.15	

Blackberries, quarts, 15, at $0.12	$	1.80
Blueberries, quarts, 273, at $0.14		38.22
Cabbage, pounds, 729, at $13 per ton		4.74
Capons, pounds, 66¾, at $0.29		19.35
Carrots, bushels, 23⅓, at $0.60		13.92
Celery, boxes, 5, at $0.75		3.75
Chard, bushels, 5½, at $0.40		2.20
Cherries, quarts, 8, at $0.12		.96
Chicken, pounds, 666⅞, at $0.24		160.05
Cordwood, cords, 80, at $5		400.00
Corn, green, bushels, 10⅙, at $0.60		6.10
Cucumbers, boxes, 4 1/12, at $1		4.08
Eggs, dozen, 1,702 1/12, at $0.25		425.65
Fodder, corn, tons, 52, at $5		260.00
Fodder, oats and peas, tons, 10, at $5		50.00
Fowl, pounds, 254⅜, at $0.17		43.24
Grapes, pounds, 109, at $0.04		4.36
Hay, alfalfa, pounds, 300, at $23 per ton		3.45
Hay, English, tons, 5, at $20.75		103.75
Lettuce, boxes, 1½, at $0.25		.38
Mangel-wurzels, bushels, 78, at $0.25		19.50
Manure, cords, 11, at $6		66.00
Manure, hen, barrels, 22, at $0.75		16.50
Milk, quarts, 6,352, at $0.05⅔		359.95
Onions, bushels, 120, at $0.60		72.00
Parsnips, bushels, 6, at $0.65		3.90
Pears, bushels, 4, at $0.75		3.00
Peas, green, bushels, 11, at $2		22.00
Potatoes, bushels, 255, at $0.55		140.25
Pumpkins, pounds, 109, at $0.01½		1.64
Radishes, bushel, ½, at $0.75		.38
Raspberries, quarts, 53, at $0.18		9.54
Scullions, bushels, 11¼, at $0.25		2.81
Squash, summer, barrels, 1⅛, at $0.60		.80
Squash, winter, pounds, 342, at $20 per ton.		3.42
Strawberries, quarts, 46, at $0.12		5.52
Tomatoes, green, bushels, 4, at $1		4.00
Tomatoes, ripe, bushels, 17½, at $1		17.50
Turnips, bushels, 149, at $0.75		111.75
		$2,800.03

Highland Cottage

Beans, string, bushels, 3, at $0.85	$ 2.55	
Blackberries, quarts, 3, at $0.12	.36	
Blueberries, quarts, 363, at $0.14	50.82	
Tomatoes, green, bushels, 7, at $1	7.00	
		$ 60.73

Valley Farm Cottages

Apples, barrels, 53, at $2	$ 106.00
Asparagus, box, 1, at $4	4.00
Beans, string, bushels, 20½, at $0.85	17.43
Beans, dry, bushels, 7⅓, at $2.65	19.87
Beets, bushels, 96½, at $0.60	57.90
Beet greens, bushels, 21, at $0.40	8.40
Blackberries, quarts, 75, at $0.12	9.00
Blueberries, quarts, 253, at $0.14	35.42
Cabbage, pounds, 1,738, at $13 per ton	11.30
Carrots, bushels, 182½, at $0.60	109.50
Celery, boxes, 37, at $0.75	27.75
Chard, bushels, 52, at $0.40	20.80
Cherries, quarts, 12, at $0.12	1.44
Chicken, pounds, 121, at $0.24	29.04
Cordwood, cords, 75, at $5	375.00
Corn, green, bushels, 63, at $0.60	37.80
Crab apples, barrel, ⅘, at $2.25	1.80
Cucumbers, boxes, 6⅛, at $1	6.13
Currants, quarts, 2, at $0.05	.10
Eggs, dozen, 1,414⅚, at $0.25	353.71
Ensilage, corn, tons, 120, at $5	600.00
Fodder, millet, tons, 8, at $5	40.00
Fodder, oats and peas, tons, 10, at $5	50.00
Fowl, pounds, 218, at $0.17	37.06
Grapes, pounds, 150, at $0.04	6.00
Hay, English, tons, 25, at $20.75	518.75
Hay, meadow, tons, 6, at $11	66.00
Hay, oats and peas, tons, 14, at $15	210.00
Lettuce, boxes, 98½, at $0.25	24.62
Mangel-wurzels, bushels, 304, at $0.25	76.00
Manure, cords, 30, at $6	180.00
Manure, hen, barrels, 25, at $0.75	18.75

Milk, quarts, 6,788, at $0.05⅔	$ 384.65	
Onions, bushels, 31½, at $0.60	18.90	
Parsnips, bushels, 25, at $0.65	16.25	
Peaches, bushel, 1, at $2	2.00	
Pears, bushels, 2, at $0.75	1.50	
Peas, green, bushels, 4½, at $2	9.00	
Plums, bushel, 1, at $1	1.00	
Potatoes, bushels, 1,504, at $0.55	827.20	
Radishes, bushels, 2½, at $0.75	1.87	
Raspberries, quarts, 31, at $0.18	5.58	
Rhubarb, pounds, 30, at $0.01	.30	
Rowen, ton, ½, at $10	5.00	
Scullions, bushels, 21⅘, at $0.25	5.45	
Squash, summer, barrels, 9⅕, at $0.60	5.52	
Squash, winter, pounds, 1,050, at $20 per ton	10.50	
Straw, rye, tons, 3, at $15	45.00	
Tomatoes, bushels, 22½, at $1	22.50	
Turnips, bushels, 169, at $0.75	126.75	
		$4,548.54

Westminster Cottages

Apples, barrels, 94, at $2	$ 188.00	
Asparagus, boxes, 8, at $4	32.00	
Beans, dry, bushels, 30, at $2.65	79.50	
Beans, shell, bushels, 4, at $0.85	3.40	
Beans, string, bushels, 24, at $0.85	20.40	
Beets, bushels, 39⅔, at $0.60	23.80	
Beet greens, bushels, 21, at $0.40	8.40	
Blackberries, quarts, 374, at $0.12	44.88	
Blueberries, quarts, 785, at $0.14	109.90	
Cabbage, pounds, 2,599, at $13 per ton	16.89	
Carrots, bushels, 154⅘, at $0.60	92.88	
Cider, gallons, 440, at $0.15	66.00	
Chard, bushels, 36, at $0.40	14.40	
Chicken, pounds, 85¾, at $0.24	20.58	
Cordwood, cords, 115, at $5	575.00	
Corn, green, bushels, 36, at $0.60	21.60	
Cucumbers, boxes, 32, at $1	32.00	
Cucumbers, pickling, pecks, 15, at $0.35	5.25	

Dandelions, bushels, 7, at $0.35	$ 2.45	
Ensilage, corn, tons, 60, at $5	300.00	
Eggs, dozen, 1,018¼, at $0.25	254.58	
Fodder, barley, ton, 1, at $6	6.00	
Fodder, cabbage, ton, 1, at $5	5.00	
Fodder, corn, tons, 8, at $5	40.00	
Fodder, millet, tons, 2, at $5	10.00	
Fodder, oat, tons, 2, at $5	10.00	
Fodder, rye, tons, 7, at $5	35.00	
Fowl, pounds, 111, at $0.17	18.87	
Grapes, pounds, 165, at $0.04	6.60	
Hay, bluejoint, tons, 11, at $11	121.00	
Hay, English, tons, 24, at $20.75	498.00	
Hay, millet, tons, 2, at $12	24.00	
Hay, rye, tons, 6, at $15	90.00	
Lettuce, boxes, 13, at $0.25	3.25	
Mangel-wurzels, bushels, 63, at $0.25	15.75	
Manure, cords, 65, at $6	390.00	
Manure, hen, barrels, 14, at $0.75	10.50	
Milk, quarts, 20,180, at $0.05⅞	1,143.53	
Muskmelons, crates, 3, at $1	3.00	
Onions, bushels, 117, at $0.60	70.20	
Parsnips, bushels, 20, at $0.65	13.00	
Pears, bushels, 14, at $0.75	10.50	
Peas, green, bushels, 23 at $2	46.00	
Posts, fence, 175, at $0.20	35.00	
Potatoes, bushels, 971, at $0.55	534.05	
Pumpkins, pounds, 2,500, at $0.01½	37.50	
Radishes, bushels, 3½, at $0.75	2.62	
Rhubarb, pounds, 1,125, at $0.01	11.25	
Spinach, bushels, 12, at $0.35	4.20	
Squash, summer, barrels, 6, at $0.60	3.60	
Squash, summer, barrels, 6, at $0.60	3.60	
Squash, winter, pounds, 2,340 at $20 per ton	23.40	
Stakes, fence, 250, at $0.10 each	25.00	
Strawberries, quarts, 327, at $0.12	39.24	
Tomatoes, green, bushels, 8, at $1	8.00	
Tomatoes, ripe, bushels, 7, at $1	7.00	
Turnips, bushels, 85 1/10, at $0.75	63.83	
		$5,276.80

General

Beef, cow, pounds, 6,916, at $0.09	$ 559.44	
Beef, steer, pounds, 3,763, at $0.12½	470.38	
Calf skin, 1, at $0.75	.75	
Calves sold, 26, at $4	104.00	
Calf sold, 1, at $7	7.00	
Calf sold, 1, at $6	6.00	
Guinea pigs sold, 392	118.70	
Hides, cow, green, pounds, 754, at $0.12	90.48	
Hides, steer, green, pounds, 375, at $0.12	45.00	
Ice, tons, 842, at $3	2,526.00	
Lamb, pounds, 544, at $0.16	87.04	
Lumber, oak, chestnut, maple, 10,000 feet, at $25 M	250.00	
Lumber, hemlock, spruce, pine, 56,000 feet, at $20 M	1,120.00	
Milk, quarts, 111,200, at $0.05⅝	6,301.33	
Pigs sold, 3	20.00	
Pork, fresh, pounds, 16,009, at $0.12	1,921.08	
Sawdust, cords, 16, at $2	32.00	
Slabs, cords, 16, at $2	32.00	
Stone, crushed, tons, 1,295, at $1	1,295.00	
		$14,986.20
Total farm products		$40,092.70

Live Stock

Bulls, 2	$ 250.00
Calves, 15, at $26	390.00
Cockerels, 100, at $0.50	50.00
Cows, 47, at $80	3,760.00
Guinea pigs, 187, at $0.30	56.10
Heifers (one-year), 9, at $46	414.00
Heifer (two-year), 1	50.00
Hens, 405, at $0.75	303.75
Hogs, 13, at $25	325.00
Horses, 18	3,280.00
Oxen, 15	1,725.00
Pigs, 8, at $5	40.00

Pullets, 286, at $0.60	$ 171.60
Roosters, 9, at $1.25	11.25
Sheep, 5, at $15	75.00
Shoates, 52, at $10	520.00
	$11,421.70

THE END

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